Now—A Container That Stops Damage

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June 22, 1959

RAILWAY AGE *weekly*

New crutch helps | SP move crippled cars . . . . . p. 26

Lubricator Pads

Where 3 roads stand today; what's ahead?

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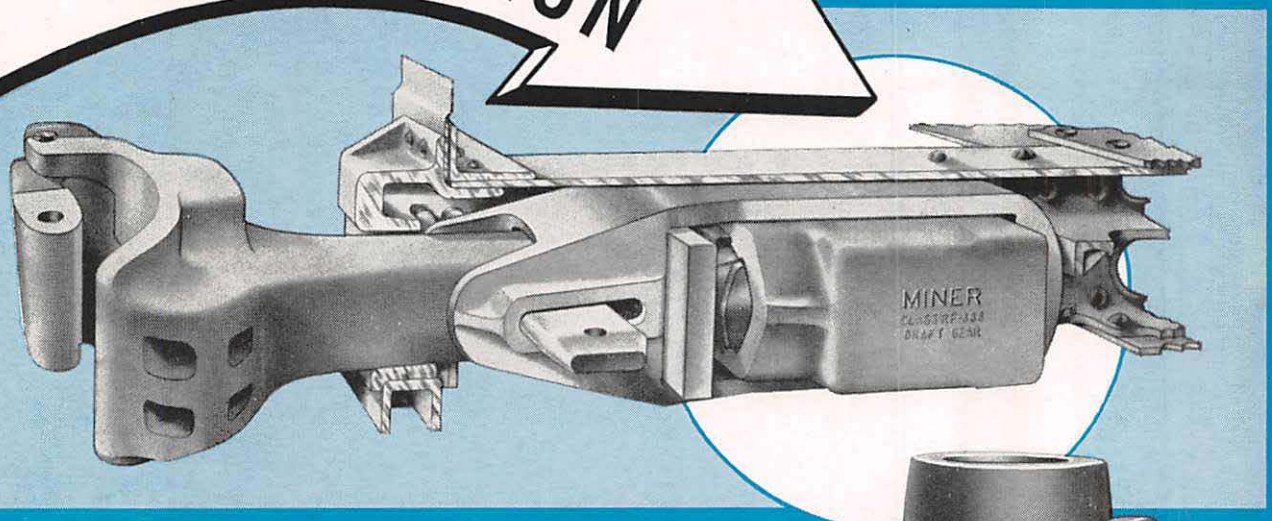

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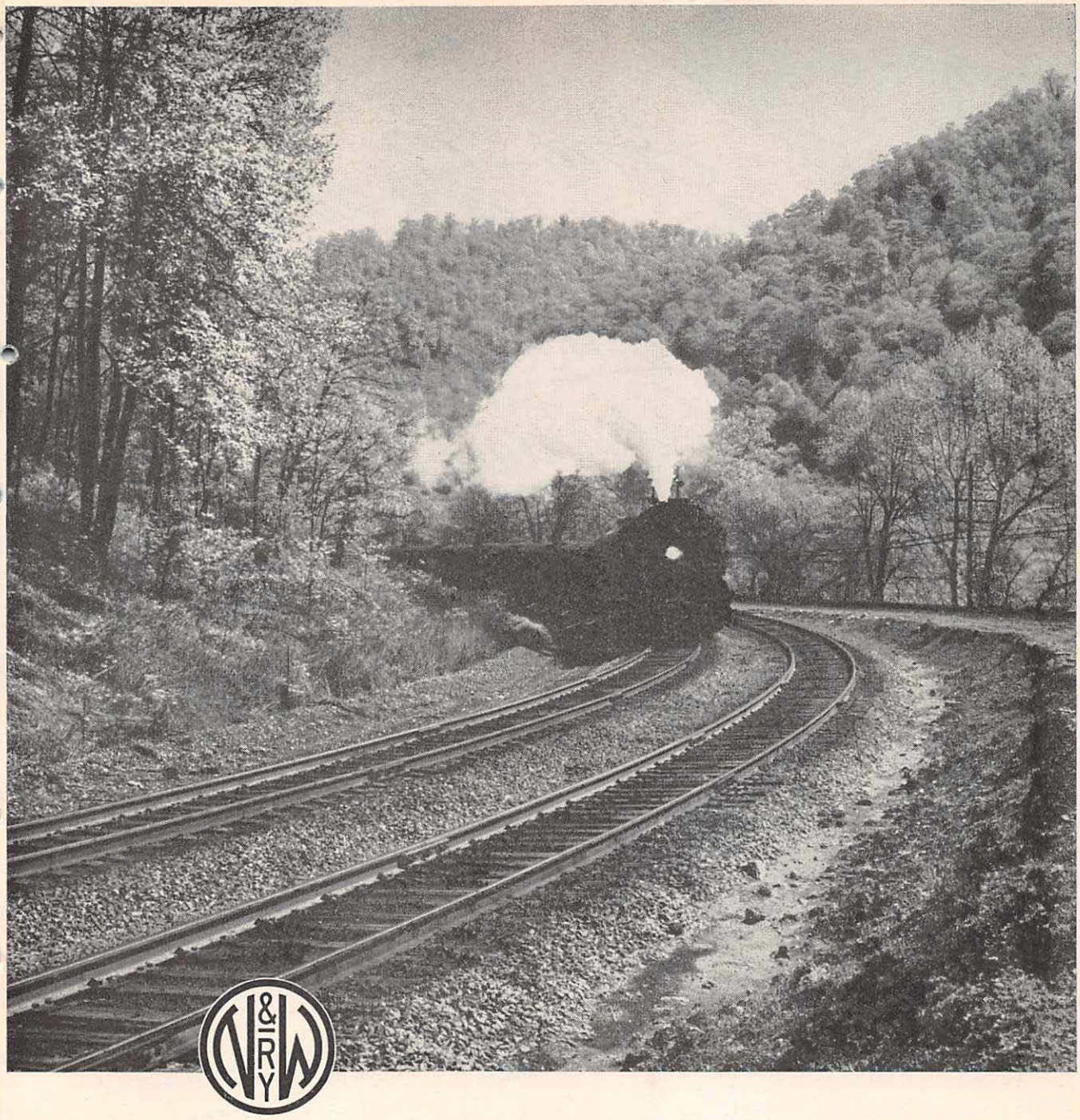

Heat-treated Rails Last 2 to 4 Times Longer on N & W

Here at Looney's Curve, W. Va., one of the last of Norfolk & Western's great 2-6-6-4's hauls its heavy drag over an installation of Bethlehem heat-treated 132 RE rails. These rails were laid in this compound 4-7-12 degree curve in August 1954—nearly five years ago. Since then, more than 100,000,000 gross tons of traffic have pounded their way through the curve!

Formerly, untreated rails at this same spot had to be replaced 6-9 months on the low side, and 12-15 months on the high side of the curve. The heat-treated rails—despite the beating they have already taken—clearly show that they can stay on the job for several years more!

Impressive as it is, this case is not exceptional. Railroads all over the country are slashing maintenance costs with heat-treated rails and track-work. Bethlehem, a pioneer in rail treatment, can supplement the N&W success story with others equally convincing. Just contact our nearest office, or write to the address below.

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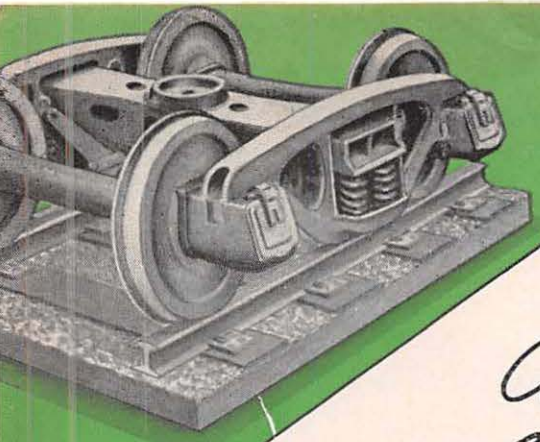
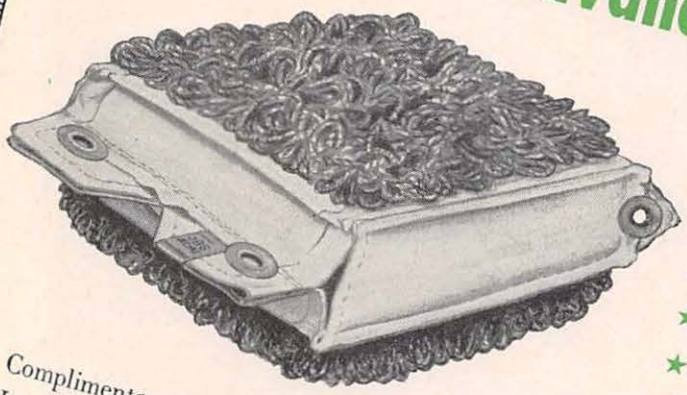


MEMO FROM THE GENERAL OFFICE

Jim—Go ahead! Acme Lubricators now have AAR Conditional Approval

The JBS ACME LUBRICATOR is a Positive Advance in Journal Lubrication



- ★ Retains 4 times its own weight in oil
- ★ Requires no modification of journal box
- ★ Wicks AAR specification car oil even in coldest weather
- ★ Assures better performance with less servicing
- ★ Cannot Glaze—Wool-cotton chenille loop surfaces
- ★ Has exclusive patented all-wool quilted core*
- ★ Reinforced for extra wear
- ★ Readily reclaimed

Complimentary reports are coming in from scores of railroads throughout America, Canada and Alaska using JBS Acme Journal Lubricators, a product of the Journal Box Servicing Corporation, that JBS Acme Lubricators are greatly reducing hot boxes in their operations. JBS Acme alone has the exclusive all-wool quilted core* which retains many times its own weight in oil reserve. Heavy chenille loop pile surfaces assure an ample supply of filtered oil at all times and prevent glazing. JBS Acme Lubricators are unaffected by temperature changes and wick AAR specification car oil even at 45° below zero in road service tests. JBS Acme Lubricators require no modification of the standard journal box, are designed to hold their position in the box, and assure better performance with less servicing.

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RAILWAY AGE *weekly* June 22, 1959 • Vol. 146, No. 25

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Railway Age, established in 1856, is indexed by the Industrial Arts Index, the Engineering Index Service and the Public Affairs Information Service. Name registered in U.S. Patent Office and Trade Mark Office in Canada.

Published weekly by the Simmons-Boardman Publishing Corporation at 440 Boston Post Road, Orange, Conn. Second-class postage paid at the Post Office at Orange, Conn. James G. Lyne, chairman of the board; Arthur J. McGinnis, president and treasurer; Duane C. Salisbury, executive vice president; George Dusenbury, vice president and editorial and promotion director; Robert G. Lewis, Joe W. Kizzia, M. H. Dick, M. J. Figa, R. C. Van Ness, vice presidents.

Road tolls to help N. J. RRs? ..... p. 9

Under a plan put forward by Governor Meyner, up to $680 million in surplus revenues from the New Jersey Turnpike would be spent to save the state's railroad commutation service.

Webb favors rate freedom p.15

The ICC's newest member thinks substantial leeway to compete for traffic is essential to a healthy transportation system.

Plastics upgrade Pennsy cars p.18

Over 300 coaches, parlor cars and diners will be rejuvenated by the end of the year, PRR says in announcing appropriation of an additional $1 million for passenger equipment.

Cover Story—This container stops damage p.23

Here's how a fishyback-piggyback shipment traveled 4,500 miles with no damage to the lading. A Santa Fe flat car equipped with Pullman-Standard's special cushioning device was used for the overland part of the trip.

Cover Story—'Crutch' carries crippled cars p.26

The inexpensive device, developed by the Southern Pacific, minimizes delays when anything happens to interfere with a car's rollability.

Cover Story—Lubricator pads today and tomorrow p.32

How well are journal lubricators doing the job for which they were designed? To find out, Railway Age asked three railroads: the L&N, the N&W and the PRR.

Dial phones save money for D&H p.38

The fully automatic telephone system includes 10 dial exchanges with lines to all the railroad's offices. It provides around-the-clock service.

Germany likes concrete ties p.43

Ten types of concrete ties have been tested there in the past 10 years. Present production, however, has standardized on a single design, available in two lengths.

Per diem bill clears committee p.59

A Senate group has favorably reported an "incentive" measure supported by railroads that want a higher car-rental charge.

Here is how many railroads are
beating the boxcar shortage

This year the railroad industry is faced with one of the greatest boxcar shortages in recent years. Even the healthy increase in new car construction cannot meet the demand for several years.

The best immediate solution is to make better use of the existing supply of cars. This is what many railroads are doing with the ADM Freight Liner method of upgrading boxcars.

One man can upgrade 15 cars a day into Class A condition using ADM Freight Liner 810—at any time—at any place on a railroad. The work does not have to be done in a car shop but can be performed at any convenient rip track or wash track.

Railroads hauling grain, flour, paper, tobacco, bauxite and many other commodities have found this plastic-and-fiberglass treatment a quick way to provide usable boxcars. Freight Liner seals rough and broken walls and corners with a smooth, tough surface that is moisture-proof and easy to clean. The Pure Food and Drug Administration approves ADM Freight Liner 810 for shipment and storage of bulk foodstuffs.

Let us show you how economically and quickly you can get more usable Class A cars. Write, wire or phone Archer-Daniels-Midland Company, 732 Investors Building, Minneapolis 2, Minn. (FEderal 3-2112).

Since January 1, 1956, 34 major railroads have upgraded more than 100,000 boxcars with

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ADM PRODUCTS: Linseed, Soybean and Marine Oils, Synthetic and Natural Resins, Fatty Acids and Alcohols, Vinyl Plasticizers, Hydrogenated Glycerides, Sperm Oil, Foundry Binders, Bentonite, Industrial Cereal, Vegetable Proteins, Wheat Flour, Dehydrated Alfalfa, Livestock and Poultry Feeds.

Week at a Glance CONT.

Current Statistics

Operating revenue	
4 mos., 1959 ...	$3,246,567,038
4 mos., 1958 ...	2,984,176,169
Operating expenses	
4 mos., 1959 ...	2,561,979,109
4 mos., 1958 ...	2,484,072,291
Taxes	
4 mos., 1959 ...	342 591,970
4 mos., 1958 ...	279,958,086
Net railway operating income	
4 mos., 1959 ...	237,231,017
4 mos., 1958 ...	122,162,247
Net income, estimated	
4 mos., 1959 ...	161,500,000
4 mos., 1958 ...	48,000,000
Average price railroad stocks	
June 16, 1959 ..	108,85
June 17, 1958 ..	78.74
Carloadings revenue freight	
Twenty-three wks., '59	14,023,002
Twenty-three wks., '58	12,426,235
Freight cars on order	
June 1, 1959 ...	36,869
June 1, 1958 ...	30,386
Freight cars delivered	
5 mos., 1959 ...	14,322
5 mos., 1958 ...	27,138

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Circulation Dept.: R. C. Van Ness, Director of Circulation, 30 Church St., New York 7, N. Y. POSTMASTER—SEND FORM 3579 to EMMETT ST., BRISTOL, CONN.

Printed at the Wilson H. Lee Co., Orange, Conn.

Locomotive inspection intervals set p.62

The ICC has conceded that inspections at each crew-change point "would interfere with the flexibility of railroad operation" without any gain in safety, and has accordingly revised its requirements.

The Action Page—Mr. Walrath clarifies the issue p.74

It is clear, says the commissioner, that the ICC cannot hold rates on one mode of carriage to an artificial level to protect the rate structure of another. It will be a milestone in the railroads' progress to a greater degree of freedom when this interpretation of the law is formally conceded by the Commission.

Short and Significant

Carrier and union conference committees . . .

will begin negotiations July 15 on the rules demands made last year by organizations affiliated with the RLEA (all unions except the BLE and ORC&B). Conference committee negotiations on the BMWE's stabilization of employment demands will be resumed June 30. Talks began June 2, were recessed June 11.

Nickel Plate is the newest member . . .

of the Trailer Train Co. NKP joined 12 other railroads—and a freight forwarder—as owners of the piggyback flat car pool.

President Eisenhower's appointment . . .

of John J. Allen, Jr., as undersecretary of commerce for transportation, has cleared the Senate Committee on Interstate and Foreign Commerce. The committee voted last week to report the nomination favorably to the Senate.

Cotton Belt passenger service . . .

will now continue beyond July 1. The ICC has suspended the road's abandonment notice while it investigates the proposal. The notice announced the road's plan to discontinue on July 1 the only regular passenger trains it now operates—Nos. 7 and 8 between St. Louis, Mo., and Pine Bluff, Ark.

Increased mail pay for western railroads . . .

has been approved by the ICC. The increase, agreed to by the Post Office Department, will raise present rates an average of about 5.6% and yield additional revenue of about $7.2 million a year.

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Push-button control!...the Seaboard's modern, electronic yard at Hamlet, N. C. speeds the products of the fast-growing industrial South to the Nation's markets.

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Road Tolls to Help N.J. RRs?

New proposal by Gov. Meyner, if approved by legislature, voters and Turnpike bondholders, could provide up to $680 million in next 30 years to cut rail taxes, improve commuter facilities.

► **The Story at a Glance: Surplus revenues from New Jersey's financially successful toll Turnpike may be used to insure continuance and improvement of commutation service on New Jersey railroads.**

A proposal to that effect, if approved, might make as much as $680 million available between now and 1988 for reduction of railroad taxes and, presumably, for improvement of existing rail facilities, including purchase of new equipment.

But implementation of the plan will require:

- **Approval of the state legislature, the voters (at a statewide referendum), and Turnpike bondholders; and**
- **Some assurance by the railroads of willingness to continue to provide suburban passenger services.**

In a dramatic proposal, made public last week, New Jersey Governor Robert B. Meyner suggested that surplus revenues from the state's toll Turnpike highway be used to aid the shrinking and deficit-ridden commuter services of New Jersey railroads.

Should the governor's plan become an actuality, it could conceivably make available, for railroad tax relief and new rail facilities and equipment, as much as $50 million this year or next, and an additional $630 million between now and 1988. The money would be taken from surplus revenues of the New Jersey Turnpike, a heavily-traveled toll highway extending from points opposite New York City on the Jersey side of the Hudson river to Philadelphia and a point roughly opposite Wilmington, Del., on the Jersey side of the Delaware river.

Initial objective of the governor's plan, as he announced it, would be "to reduce and revise" the $18-million real estate tax burden borne annually by New Jersey railroads—much the heaviest tax load, on a mileage basis, assessed against railroads by any state. A possible secondary objective would be help for the carriers in purchase of new passenger equipment, and perhaps in consolidation of facilities with a view toward more efficient and more economical operation.

Before the plan can be implemented, however, it must be approved by the state legislature; by state voters, in a referendum, and by holders of two-thirds of the $430 million of outstanding Turnpike bonds. The governor has announced that he would ask the legislature to meet in August to consider the bills necessary to put the plan into effect, and also to authorize a statewide referendum which would be submitted to the voters in November.

As outlined, the plan would leave Turnpike bondholders with a first lien on all revenues from the highway, and give them the added protection of a state guarantee on the bonds. In the light of those facts, the plan has been found both legally and financially practicable by New York law firms and investment houses, and has reportedly been approved by members of the Turnpike Authority, managing body for the toll road.

The funds which would thus be made available for railroad purposes would come from a reported surplus already accumulated by the Turnpike, plus estimated future surpluses ranging from an anticipated $11 million in 1960 to higher figures in future years, up to 1988, when the last Turnpike bonds are due to mature.

Governor Meyner, in announcing his plan, pointed out profits from the Turnpike would exceed the annual tax bill of New Jersey railroads by 1965. He added, however, that relief from all railroad taxation would be "on condition of pledges on the part of all railroads for continuance and improvement of all essential commuter services." He indicated also that, to the

Antitrust Probe Moves to EMD

The Justice Department's antitrust inquiry into the activities of General Motors is moving into the Electro-Motive Division.

A number of railroads have been asked to give pertinent information to a federal grand jury in New York. Reportedly, the grand jury is asking each railroad:

- The percentage of its traffic the road has obtained from GM since 1946.
- The percentage of the road's total purchases of locomotives, parts and maintenance from GM.

Some reports say that as many as three dozen railroads are being subpoenaed. Among roads which reportedly have been served are the PRR, New York Central, New Haven, Lackawanna, Wabash, Katy, Missouri Pacific, Texas & Pacific, Louisville & Nashville, Milwaukee, and Burlington.

The information is to be submitted by the end of this month—although some doubt that it can be prepared on such short notice.

No comment on the reported extension of the inquiry to EMD was immediately forthcoming from GM.

[As one motive power officer observed last week, a lot of things affect a railroad's purchases of motive power. In addition to quality considerations, some roads tend to standardize on one builder's product, he pointed out, because it simplifies maintenance and servicing work and reduces inventory problems. At various times during the past decade, however, other factors have been important to purchasing—as this SMP pointed out. During Korea, for example, a combination of steel shortages and heavy purchase orders stretched out delivery time for most builders. During this period, railroads often placed orders where they had the best chance for fast delivery.]

extent to which railroad taxes may be reduced or eliminated, local municipalities would be reimbursed for their loss from surplus Turnpike funds.

The plan would apply both to north Jersey commuter territory near New York and to the south Jersey suburban zone around Philadelphia and Camden. Railroads likely to be affected in the northern part of the state would include the Delaware, Lackawanna & Western; Erie; Hudson & Manhattan; Jersey Central; Lehigh Valley; New York, Susquehanna & Western; Pennsylvania; New York & Long Branch (jointly owned by the CNJ and PRR); and possibly the New York Central (West Shore). South Jersey roads would include the PRR; the Reading; and their jointly-owned Pennsylvania-Reading Seashore Lines.

In recent years, the commutation problem has become particularly acute in the northern part of the state. There, despite successive fare increases and drastic service cuts, the railroads in general have been unable to keep up with high taxes; competition from publicly-financed highways, tunnels, bridges and bus terminals; and changing patterns of population and business.

Lackawanna President P. M. Shoemaker said the Meyner plan "appears to be a constructive development." "If," he added, "it becomes encouraging as a reality for implementation before our Dec. 1 tax date, and substantially reduces taxes, and is cooperatively accepted by the municipalities involved, the Lackawanna will not need to consider in the near future any further reduction in New Jersey suburban passenger train service beyond its present case before the Board of Public Utility Commissioners [for discontinuance of a limited number of main line and Montclair branch trains]. If this step is followed promptly by a long-range solution of the commutation problem and by establishment of a realistic transportation policy by the state, there is indeed hope for the people of New Jersey."

E. T. Moore, president of the Jersey Central, said:

"Any steps designed to make railroad taxation more equitable as compared with taxes on other forms of transportation are of course long past due. To the extent that this plan accomplishes this purpose, it will have come not a moment too soon. Further, it seems to me entirely logical to use available funds to assure continuation of rail commuter service. By so doing the state will be using available funds to buy the most transportation for the fewest dollars. By helping to preserve rail transportation for commuters, we will be avoiding the enormously more expensive alternative of supplying enough additional highways to get them to and from their work."

Like Mr. Shoemaker, Herman T. Stichman, trustee of the Hudson & Manhattan, said the basic problem calls for a "long-range, fundamental solution." The governor's program, he declared, "will give temporary relief to the railroads, but won't help the commuter. It merely subsidizes a type of service that commuters are leaving in favor of highway transport, which can give them an uninterrupted ride from home to office." Thus, in Mr. Stichman's opinion, any final solution to the New York area commuter problem requires some physical connection between New Jersey railroads and the New York transit system.

Watching Washington *with Walter Taft*

• **MORE EMPLOYEE ACCIDENTS** may have to be reported by the railroads. That's the objective of a bill, S.1964, which is scheduled for hearing this week before the Senate Commerce Committee's Surface Transportation Subcommittee. Railroads oppose the proposed legislation which is supported by the Railway Labor Executives' Association.

THE BILL was introduced in the aftermath of a controversy over ICC reporting rules. These rules were changed in 1957 to confine reportable employee casualties to those related to railroad operations. Presumably, the Commission thinks that's all the present law requires.

THE CHANGES came out of recommendations by members of the Commission's staff who had conferred with representatives of the railroads. There were two changes. One, effective Jan. 1, 1957, reduced quite substantially the number of reportable accidents. The other, effective September 1, 1957, brought the reporting requirements a little way back toward the pre-1957 basis.

RLEA WANTS to get all the way back—and more. The bill would accomplish that. It would deprive the Commission of the discretion it now has to determine what are reportable accidents. It would require reporting of "all" accidents and "any" injury, and eliminate the present law's provision which says reporting shall be "under such rules and regulations as may be prescribed by the Commission."

THE ONLY RULES the Commission could then make would relate to forms and procedures for filing the required reports. The bill assures that by saying flatly that nothing in the reporting act shall be deemed to authorize the Commission to limit the reports "in any way."

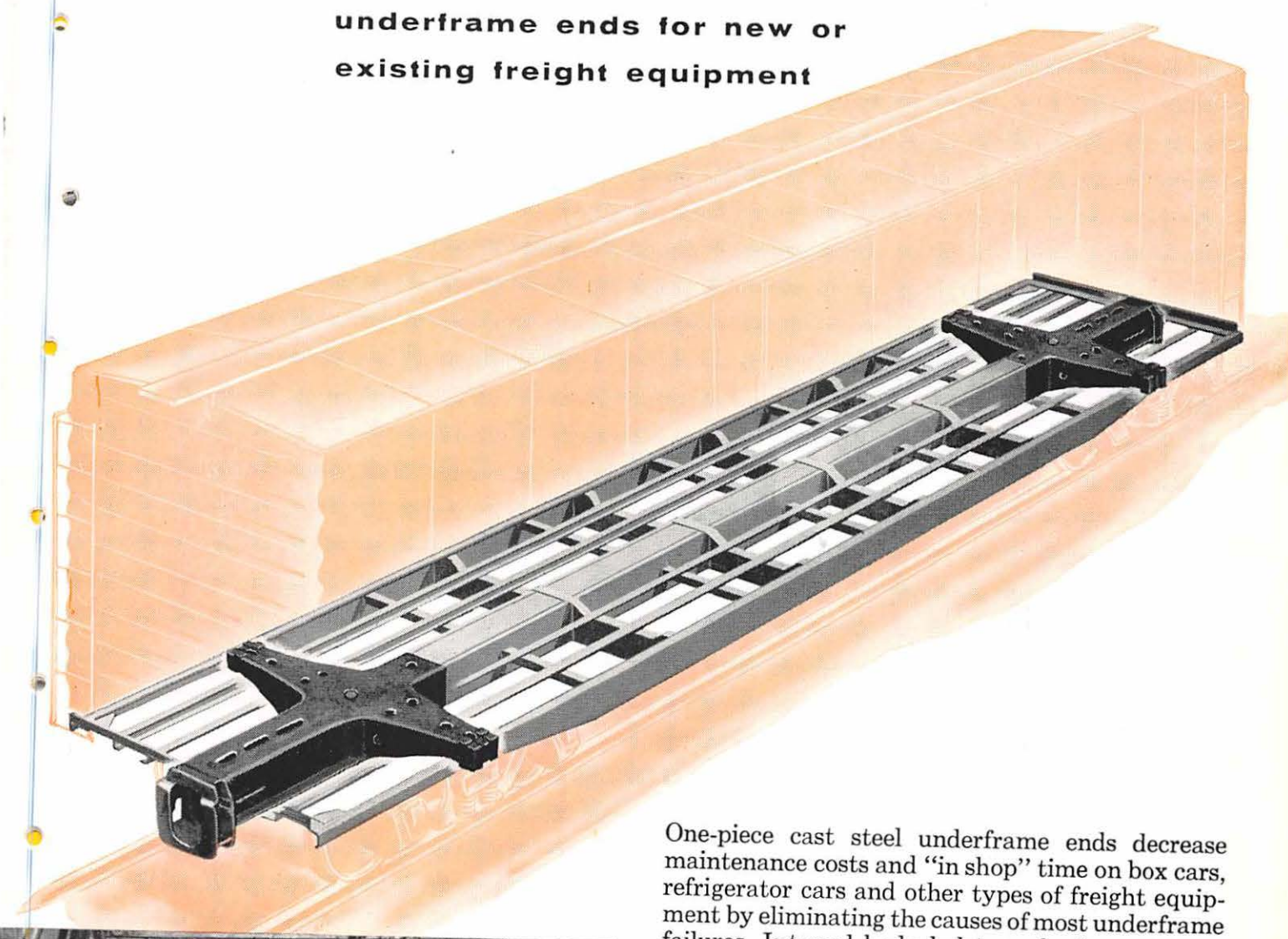
CONFINEMENT to accidents related to railroad operations is not the only feature of the present rules which affords relief from reporting. They also provide that an injury to an employee on duty is reportable only if it incapacitates him for more than three days. Other accidents are reportable if they result in fatalities, or incapacitate persons other than employees on duty for more than one day, or cause damage to rail property of more than $750.

• **FIRST INTRASTATE CASE** under the 1958 Transportation Act's service-abandonment provisions is now before the ICC. Examiner Lester R. Conley has made a proposed report recommending that the Northern Pacific be authorized to drop passenger-train services on its Carrington-Turtle Lake and Oberon-Esmond branches. It was more than four years ago—back in May 1955—that NP began its unsuccessful attempt to obtain such abandonment authority from North Dakota.

COMMISSION DISCLAIMER of authority to impose job-protection conditions in interstate train-off cases was relied upon by the examiner to dispose of that issue. He recommends a like interpretation of the act's intrastate-service provisions.

. . . where railroad progress is cast in steel

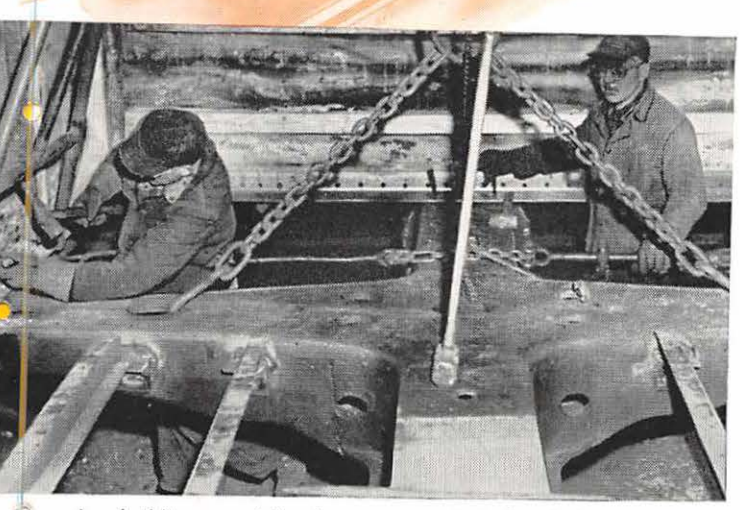
Today—more and more railroads order Commonwealth cast steel underframe ends for new or existing freight equipment



One-piece cast steel underframe ends decrease maintenance costs and "in shop" time on box cars, refrigerator cars and other types of freight equipment by eliminating the causes of most underframe failures. Integral body bolsters, draft gear stops, strikers, coupler carriers, center fillers, center plates and side bearing pads provide many advantages for new or rebuilt cars.

- eliminate body bolster failures
- increase car life
- simplify car building and repairing
- provide greater strength in critical areas
- resist rust and corrosion
- meet AAR code for interchange

Here is a proved way to get longer freight car life with reduced upkeep costs—now in service on many progressive railroads.



In rebuilding an existing box car, a cast steel underframe end is readily fitted into place.

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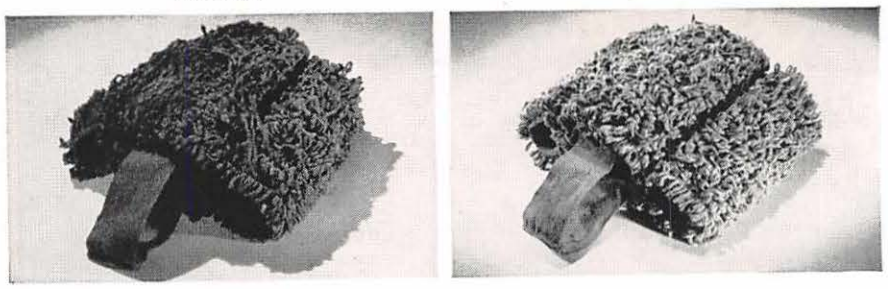

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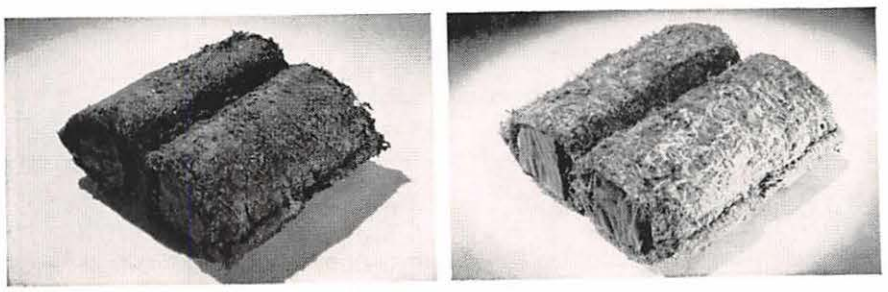

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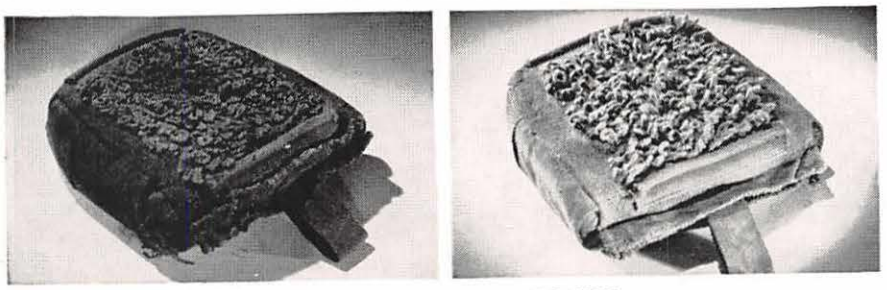

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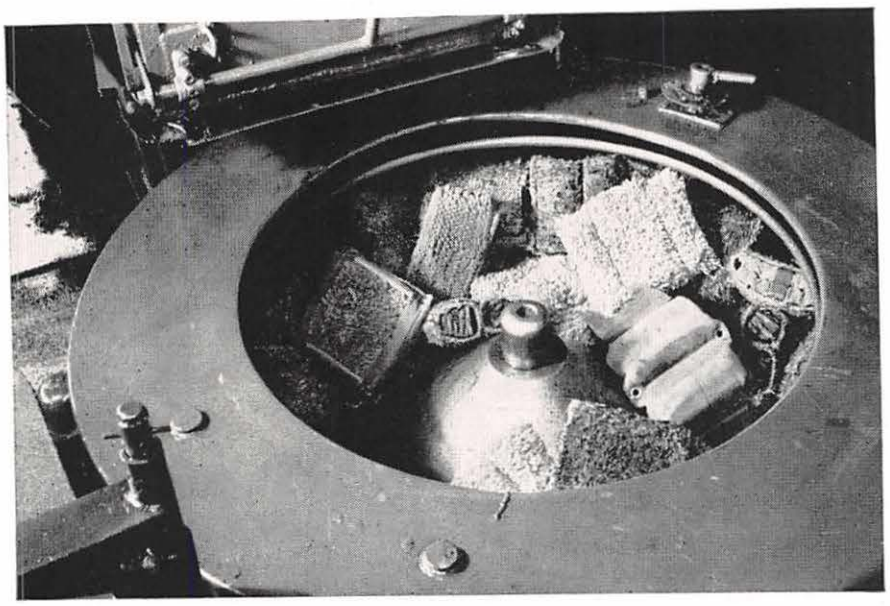


CENTRIFUGAL EXTRACTOR

"HOOSIER-IZED"

Lubricator Pads for longer life expectancy at

LESS COST!

"HOOSIER-IZING" restores lubricators to "like-new" condition. It is fast, efficient, economical . . . superior to other renovation methods because each lubricator is washed, dried and inspected—not once—but twice!

"HOOSIER-IZING" features drying by centrifugal force for most efficient removal of water and oil from every crack and crevice. Centrifugal force is controlled so that "HOOSIER-IZING" is adaptable to all types of lubricators without damage to resilient components.

"HOOSIER-IZING" has other outstanding features such as:

1—Agitation by turbulence of a large volume of wash oil.

2—Automatic temperature control within 230 to 240° F. to remove virtually every trace of moisture.

3—Continuous filtration of hot journal box wash oil.

4—Two complete washings for thorough contamination removal.

Applicable to all AAR conditionally-approved lubricator designs and materials, "Hoosier-izing" costs approximately 1/20th the price of new pads.

FREE OFFER!

To acquaint you with the superior benefits of "Hoosier-ized" lubricator renovation, we will clean 80 pads (10 car sets—2 drums full) absolutely free of charge. No strings, no gimmicks. Simply send your dirty lubricators to the Hoosier Waste Renovating plant nearest you.

NO OBLIGATION!

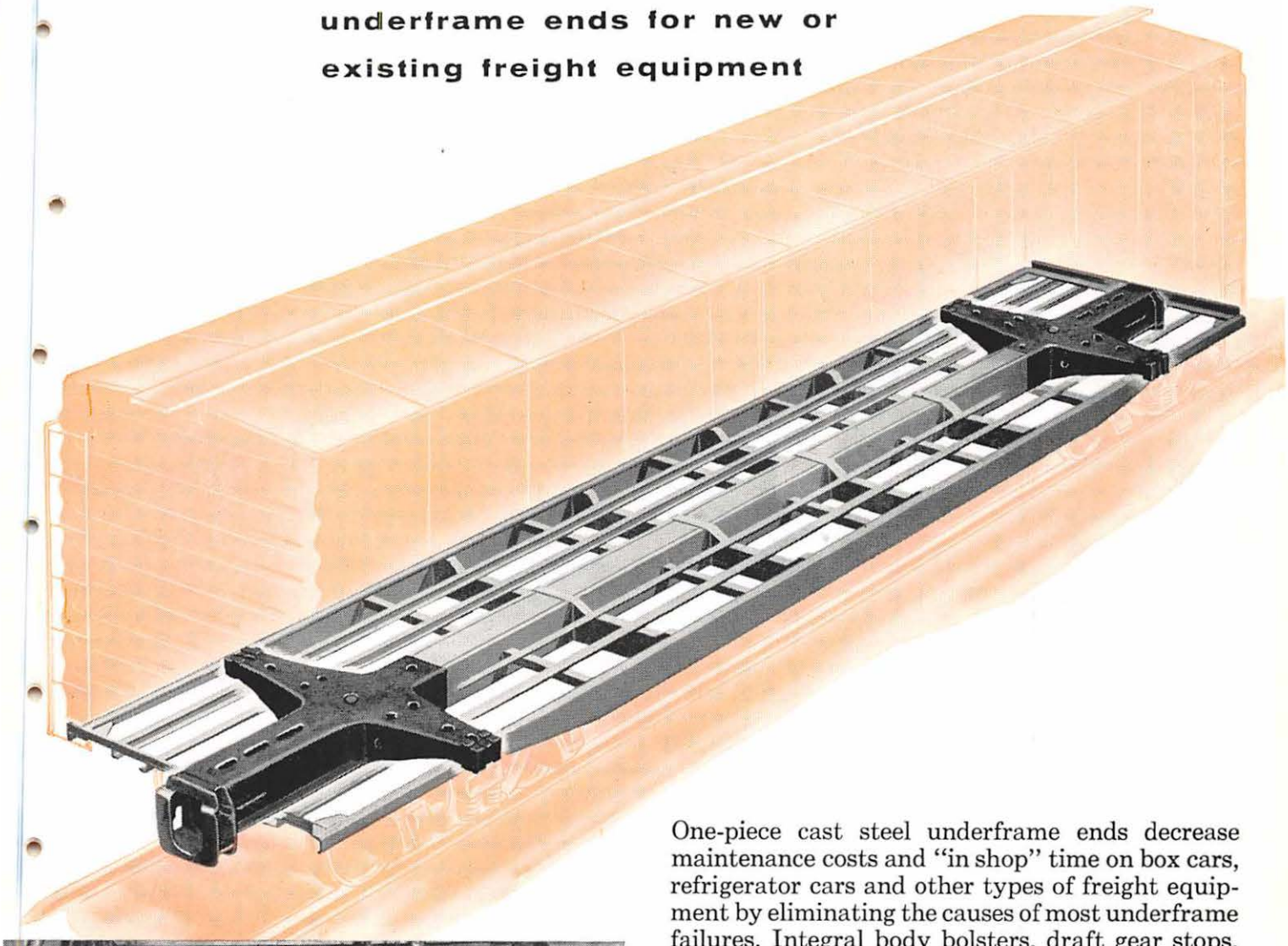
HOOSIER
WASTE RENOVATING COMPANY
2251 ALVORD STREET · INDIANAPOLIS 5, INDIANA

Branch Plants: DALLAS · ATLANTA · MIDDLESEX, N. J.

"38 Years Experience in the Renovation of Journal Box Lubricating Packing"

. . . where railroad progress is cast in steel

Today—more and more railroads order Commonwealth cast steel underframe ends for new or existing freight equipment



One-piece cast steel underframe ends decrease maintenance costs and "in shop" time on box cars, refrigerator cars and other types of freight equipment by eliminating the causes of most underframe failures. Integral body bolsters, draft gear stops, strikers, coupler carriers, center fillers, center plates and side bearing pads provide many advantages for new or rebuilt cars.

- eliminate body bolster failures
- increase car life
- simplify car building and repairing
- provide greater strength in critical areas
- resist rust and corrosion
- meet AAR code for interchange

Here is a proved way to get longer freight car life with reduced upkeep costs—now in service on many progressive railroads.

In rebuilding an existing box car, a cast steel underframe end is readily fitted into place.

GEARED TO PROGRESS P R I MEMBER

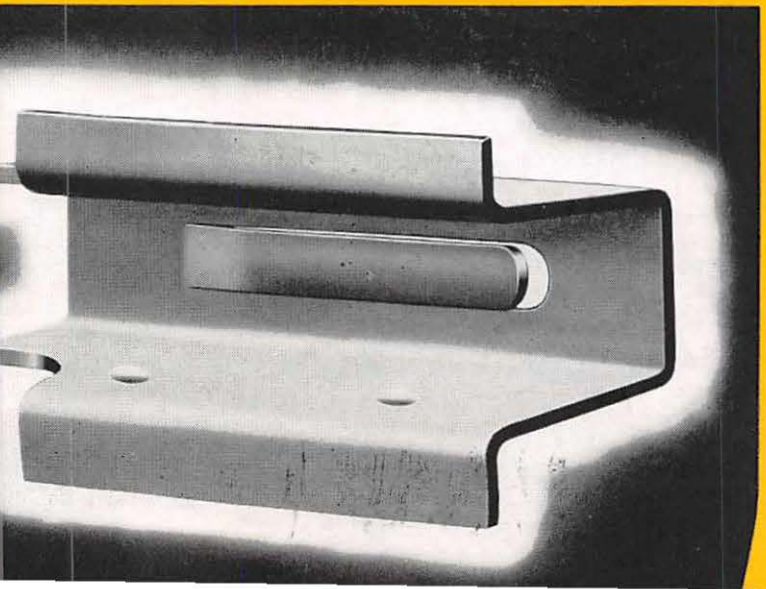
GENERAL STEEL CASTINGS

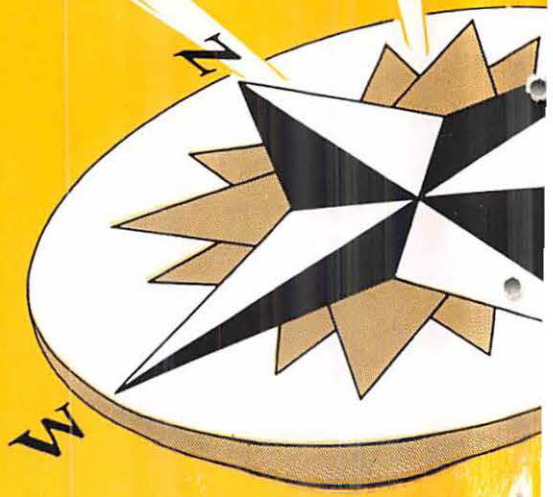
EDDYSTONE, PA. · AVONMORE, PA.

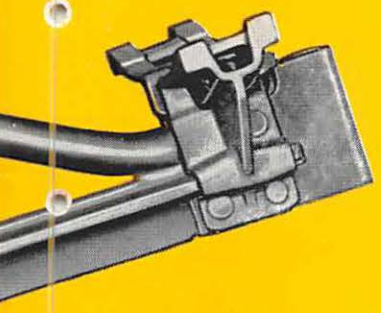
Buffalo Solid Truss Unit Brake Beam
Preferred for top Unit performance

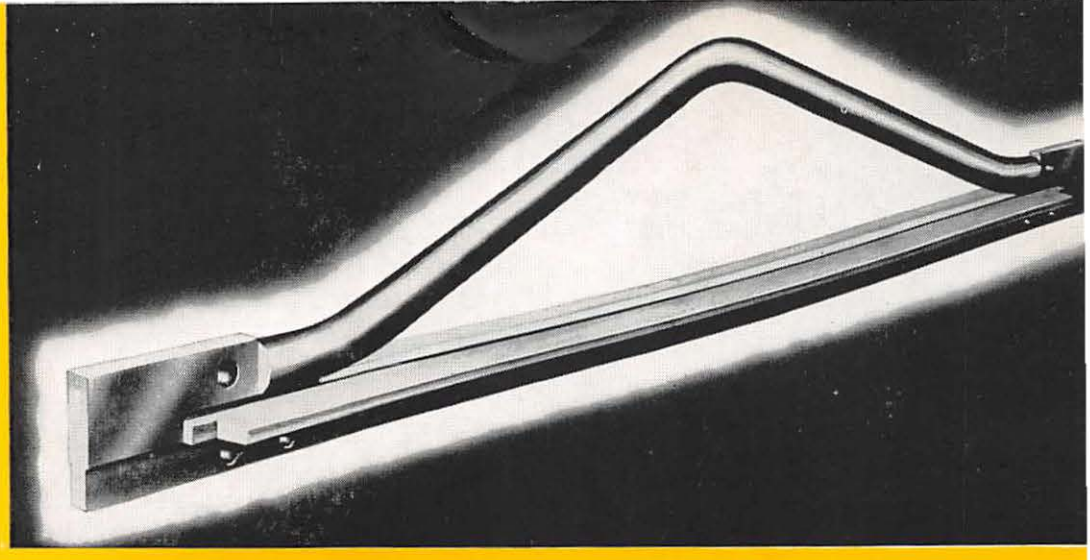
BUFFALO-UNIT "A Solid

Buffalo-Unit Self-Centering Wear Plate. The *only* wear plate designed and produced by Buffalo-Unit for use on Unit Trucks









Basic Buffalo-Unit solid truss brake beam section shows the clean design and rugged strength that has made it the world's No. 1 hangerless brake beam

Citizen" everywhere

North—East—South—West... wherever railroads run on the North American continent, there are more Buffalo Solid Truss Unit Brake Beams in service than any other hangerless type brake beam.

The railroads' acceptance of Unit as standard is reflected in their confident dependence on Buffalo-designed and Buffalo-produced equipment... for it was Buffalo and Unit, working together, who were solely responsible for the development of the Unit Truck, the standard braking system now in service on every continent thru-out the world.

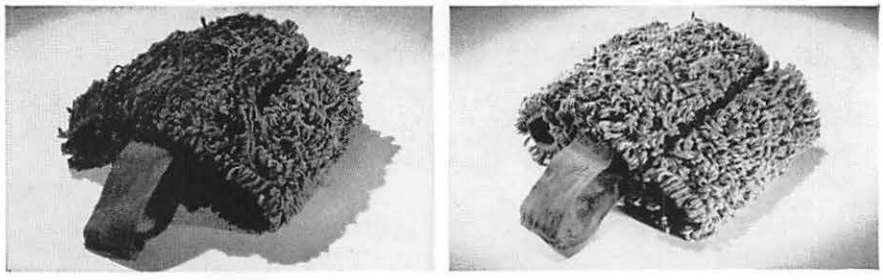
UNIT TRUCK

A DEVELOPMENT OF

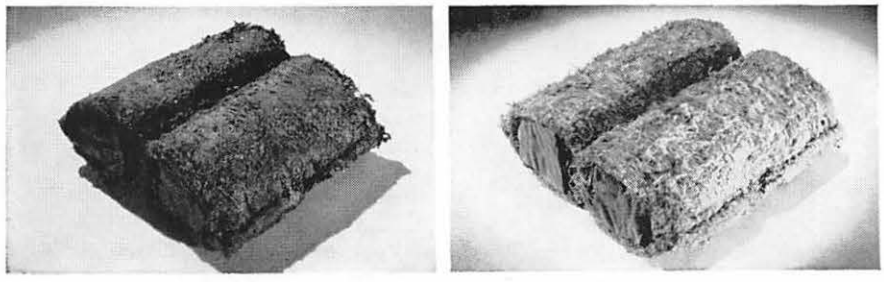
BUFFALO BRAKE BEAM COMPANY
UNIT TRUCK CORPORATION

NEW YORK · BUFFALO · HAMILTON, ONT.

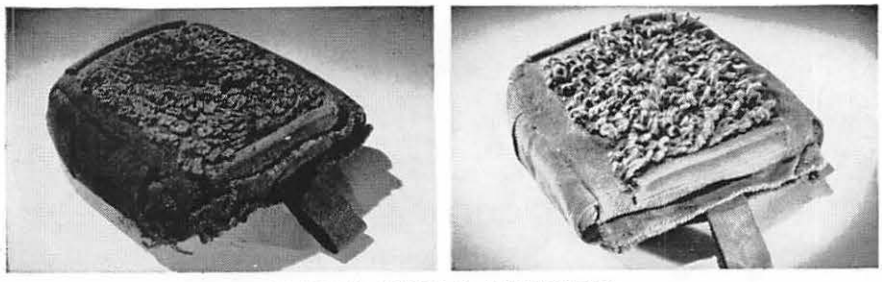
BEFORE AFTER



JOURNAPAK JOURNAL LUBRICATOR



MILLER JOURNAL LUBRICATOR



UNI-PAK JOURNAL LUBRICATOR

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"38 Years Experience in the Renovation of Journal Box Lubricating Packing"

Webb Favors Rate Freedom

The ICC's newest member, Commissioner Charles A. Webb, last week took a strong stand in favor of rate-making freedom. He said substantial leeway to compete for traffic is the "most important" of all ingredients which make up a sound national transportation system.

The commissioner avoided specific discussion of the 1958 Transportation Act's rate-freedom provisions, which await further Commission interpretation in pending cases. At the same time, he expressed his personal opinion that neither these provisions, nor any other section of the Interstate Commerce Act, are rendered nugatory by the "broad generalities" found in the declaration of policy. Railroads and others have complained from time to time that the Commission turns to the declaration of policy to find a basis for decisions (including competitive rate decisions) which could not be bottomed on substantive provisions of the act.

Mr. Webb criticized certain "unhealthy" attitudes of shippers—advocacy of subsidized transport, and support of "too many" applications for new truck-operating rights. Meanwhile, he advised shippers to promote standardization of piggyback equipment, and urged them to support proposed legislation which would permit the Commission to impose penalty and incentive per diem rates and thus use the rental charge to promote buying and efficient utilization of freight cars.

Commissioner Webb offered his comment on rate freedom and his advice to shippers in a June 17 address before the Ohio Valley Transportation Advisory Board in Huntington, W. Va.

As to rate freedom, he thinks shippers have been generally right in demanding "hard" competition. He also thinks that, in this connection, they have been "generally more perceptive than the carriers, the Congress and the Commission."

Public transportation would suffer "irreparable damage" if regulation were directed toward "preventing any carrier from getting hurt," Mr. Webb said, adding:

"Private carriage would continue to grow by leaps and bounds. Shippers would be denied the savings to which they are entitled, because the inherent advantages of competing modes of transportation can be weighed accurately only on the scales of fair competition. And, finally, I do not think the Interstate Commerce Commission has the time, the manpower, or the wisdom to allocate 'fair shares' of traffic; or to peg millions of rates at precisely the right level to assure precisely the right amount of revenue for thousands of carriers."

In expressing his view that the transportation policy cannot become a basis for decisions, Mr. Webb called the declaration "a statement of high aspirations," related to the act as the preamble is to the body of the Constitution.

"Any judge who attempted to find in the phrase, 'To insure domestic tranquility,' a source of legislative, executive, or judicial power would be justly and widely criticized. It would be said that he was either too lazy to base his decision on legal grounds or that he was using the preamble to mask his personal predilections."

On the subsidy matter, Mr. Webb is "repulsed," as he put it, "by the sight of a business man who opposes federal subsidies in general but who works actively for projects which require taxpayers to shoulder a part of his transportation costs."

The ICC, the commissioner warned, "cannot preserve the inherent advantages of competing modes of transportation by fair and impartial regulation if their inherent economic advantages are subverted by unfair promotional policies."

For this, Mr. Webb doesn't blame Congress—because "I know the pressures which are applied by some local chambers of commerce and by other part-time defenders of the free-enterprise system." He finds it "most encouraging" that Congress "has the courage to undertake a study of user charges in the transportation field." Such a study is on the agenda of the Senate Commerce Committee's so-called S. Res. 29 investigation, which is not yet under way.

The long-run outlook for shippers, as seen by Mr. Webb, is that they will get "the kind of transportation they deserve, which may or may not be the kind they want." To make the latter coincide with what is deserved "depends primarily on self-restraint; that is, on the ability of shippers to subordinate certain short-term economic advantages to long-range national transportation objectives." He explained:

"Destructive competition, like subsidized transportation facilities, produces temporary benefits for shippers. The tendency of each, however, is to produce a less competitive and more costly transportation system."

Gyro-Glide Monorail Proposed

The Gyro-Glide monorail transit system now being developed by the Northrop Corp., Norair Division, Hawthorne, Calif., has been offered as a possible solution to traffic problems confronting Los Angeles and other metropolitan areas. This system, which is expected to cost between $1,000,000 and $2,000,000 per mile, would utilize freeways and other existing rights of way. It features a unique propulsion and gyro-stabilization unit and requires no trolley or third rail between stations. Heart of the unit is a 1,000-lb inertial flywheel. Set in motion by a station power source, the flywheel whirls at high speed, turning a generator which provides current for the traction motors until the next station stop. On long runs, the flywheel can pick up new energy from sections of powered rail along the route without stopping. While the train is in motion, the flywheel also acts as an anti-sway gyroscope.

PROGRESS TOWARD A STANDARD HOPPER

ACF is the first to build these hoppers, designed jointly by the PRR, C&O and the N&W. Our plants in Berwick, Pa. and Huntington, W.Va. are now producing 2,000 cars each. Now is the time to get your order added to these runs. Price, design details, specifications and delivery dates are available from the American Car & Foundry sales office near you.

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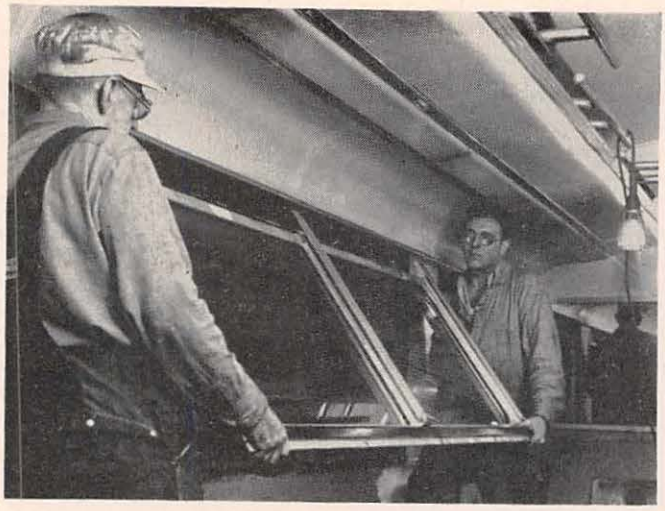
Plastics Upgrade Pennsy Cars

With a new appropriation of $1 million nearly doubling the sum originally available for passenger equipment improvement this year, PRR is looking to new plastic materials for a quick return on costs.



1

Sealed-unit windows are removed, repaired as necessary, and replaced. New seals will keep windows from fogging.

2

Vinyl plastic floor covering will be installed on some coaches. The plastic tile is long-lived, easy to clean.

3

Pennsylvania stencil is renewed before car is returned to service. Completely overhauled car is like new again.

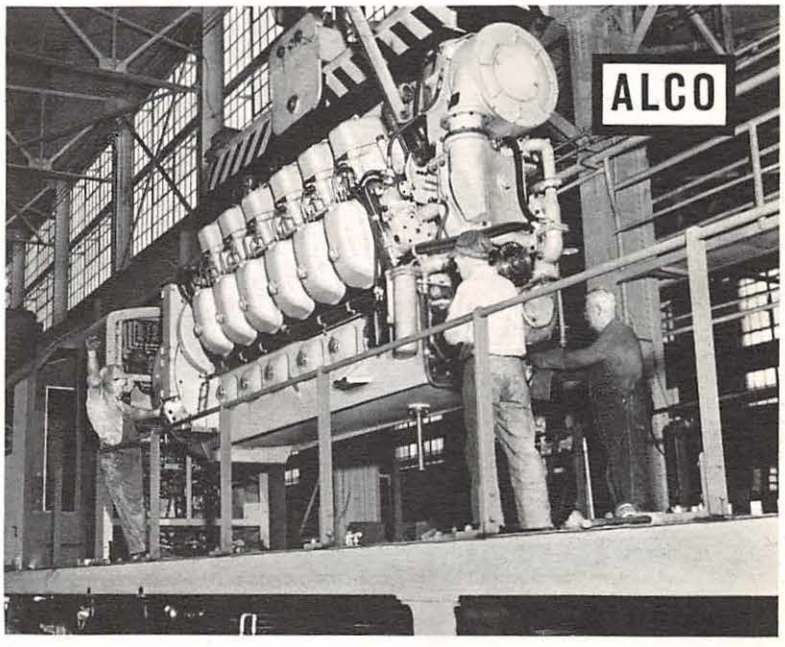
► The Story at a Glance: Completely renewed coaches, parlor cars and diners at the rate of 40 a month will be coming out of PRR shops for the rest of the year. About half the cars will get a complete overhaul at Altoona; the rest need only light repairs at Philadelphia and Pittsburgh to bring them to peak condition. Twenty-four coaches will get a complete restyling for easier maintenance, including automotive-type seat covers, vinyl plastic floor tiles, and new washable plastic paints that can be sprayed on and will not chip or scratch. The complete overhaul includes air conditioning and heating systems, seats, doors and windows, and reconditioning of wheels and trucks.

The Pennsy's expanded improvement program will cover about a quarter of the road's fleet of coaches and diners by the end of this year. In addition, 22 lightweight parlor cars from the "Congressionals" are coming up for redecoration. All told, the 1959 program will include 270 coaches, 22 parlor cars and 25 diners.

The cars involved are either modern or modernized equipment. "The cars we have scheduled for this program are those that need repairs the most," says Harry M. Wood, assistant chief mechanical officer in charge of car maintenance.

Many of the new materials to be used in refurbishing interiors are new in railroad application, according to PRR Art Director Alfred C. Strasser. Interior paints, for example, are a new two-tone plastic type that can be sprayed on steel, glass, ceramics and other materials. Small pieces of contrasting pigment suspended in the basic color give a two-tone effect in one spraying over an undercoat. Once on, the paint is exceedingly durable. Washable, it can even be scrubbed with steel wool.

On some cars, PRR is installing seat covers similar to those used on autos. These can be removed and replaced from stock while a car is being cleaned. The old covers can then be repaired at leisure without taking the car out of service. The seat covers and new vinyl plastic floor tiles carry out one of four different color schemes—red, blue, green or brown—of the paint.



POWER-ASSEMBLY INSPECTION REPORTS

FROM MAJOR RAILROADS REVEAL:

top-deck overhaul period lengthened to three years, even four, with ALCO 251 diesel

TESTS PROVE WEAR-RESISTANCE

RAILROAD A: After 168,500 heavy-duty freight miles in 31 months, inspection shows only slight wear to ALCO 251 engine

An ALCO DL-701 locomotive with the 251 diesel was checked for the first time after 31 months of heavy, slow-speed freight service and an accumulation of 168,500 miles. Engine was standard twelve-cylinder 251 with oil-bath, air-intake filter on the turbocharger.

RING WEAR (Compression-ring gap clearance)—Maximum of all rings was 35% of permissible wear. The average for #1 rings was found to be less than 25% of permissible wear. The #2 rings averaged 14% wear. The #3 rings averaged 10%.

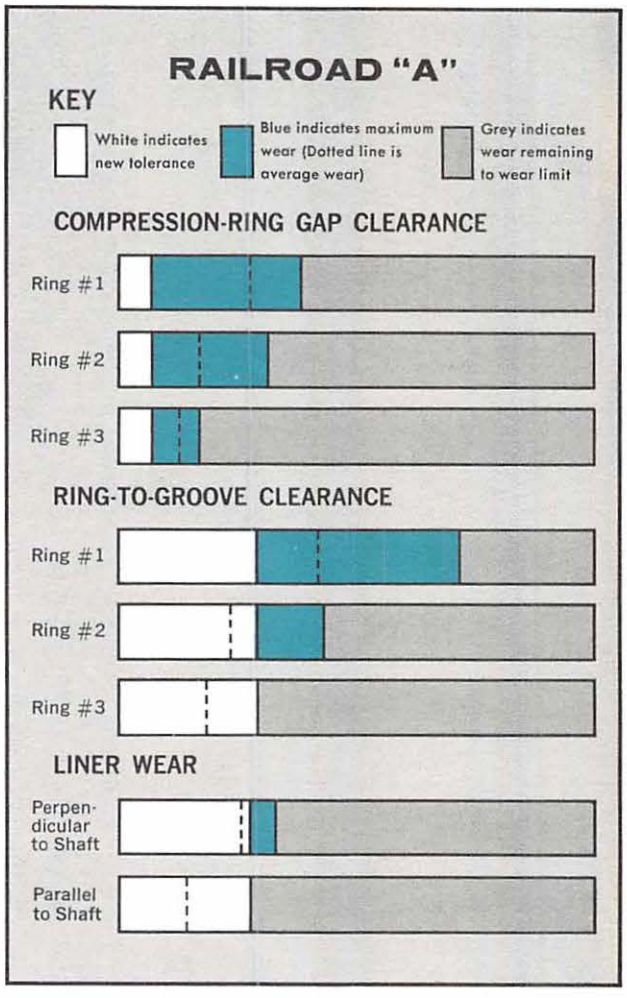
PISTON AND RING WEAR (Compression-ring-to-groove clearance)—Of the #1 rings: one had 65% wear, another 60%, while the rest showed less than 50% wear. The #2 rings were all within 0.001 in. of new tolerance range. The #3 rings were all well within new tolerance range.

LINER WEAR (Out-of-roundness)—Four liners showed 22% of allowable wear from base diameter. All the other eight measured less.

OTHER ITEMS—Crankpins and journals: no wear. Main and connecting rod bearings: none worn through the overlay. Wrist pins and bushings: all re-used. Valve and valve seats: only slight wear. Gears: no measurable wear. Camshafts: no wear. Water pump: no leakage and only normal wear. Water side of block and liner: no marks, no leakage. Fuel pumps and nozzles: all good.

CONCLUSION:

Another three years of operation can be expected with no rechroming or machining needed on pistons or liners; bearings should last at least another year, heads and valves the same. Whether a 3-6 year or 4-8 year overhaul cycle will be established on this railroad depends on results of 48-month inspection.



WHAT FOUR OTHER MAJOR ROADS FOUND OUT ABOUT ALCO 251 RELIABILITY

NORTHEASTERN RAILROAD C—Two ALCO 251 engines were checked after 32 months of service with an average of 5,000 to 6,000 freight miles per month. Only one head has been removed to date. No work other than this has had to be done. A 40-month top-deck inspection is planned.

EAST-CENTRAL RAILROAD D—Ten ALCO 251 engines (nine, 20 months old; one, 36 months old) are being used for high-speed freight service, averaging about 8,000 miles per month. At 33 months, a check on the 36-month engine found all components very good. No maintenance has been required on any of the others. Next check point is to be at the 40-month mark.

EASTERN RAILROAD E—Fifteen ALCO DL-701's, 33 months old doing heavy-duty freight service, averaging 6,000 to 7,000 miles per month. One operated briefly without cooling water, and an inspection showed that all cylinder assembly material was suitable for re-use. This railroad says "ALCO's new engine can take it."

EAST-CENTRAL RAILROAD F—With 38 DL-701's and 25 DL-702's ranging from 14 months to 30 months in high-speed freight service; and six DL-600B's now 30 months old . . . the railroad has set up a three-year maintenance schedule for all, based on the excellent running record of the units to date.

SUPERIORITY OF 251 DIESEL

ALCO

RAILROAD B: Light repair and cleaning puts ALCO 251 diesel back into service after hauling freight 262,000 miles in 34 months

A top-deck inspection was made by this railroad after the ALCO DL-701 locomotive with a 251 engine had been in operation 34 months and 262,000 miles. Its job had been hauling heavy, high-speed freight. The engine was the standard twelve-cylinder 251, equipped with panel-type, air-intake filters.

RING WEAR (Compression-ring gap clearance)—Of the #1 rings: one had reached wear limit and one was close to it; but three were only 80% worn and the remaining ones 70% or less. All of the #2 rings showed less than 50% wear with the average around 35%. The #3 rings were less than 20% worn.

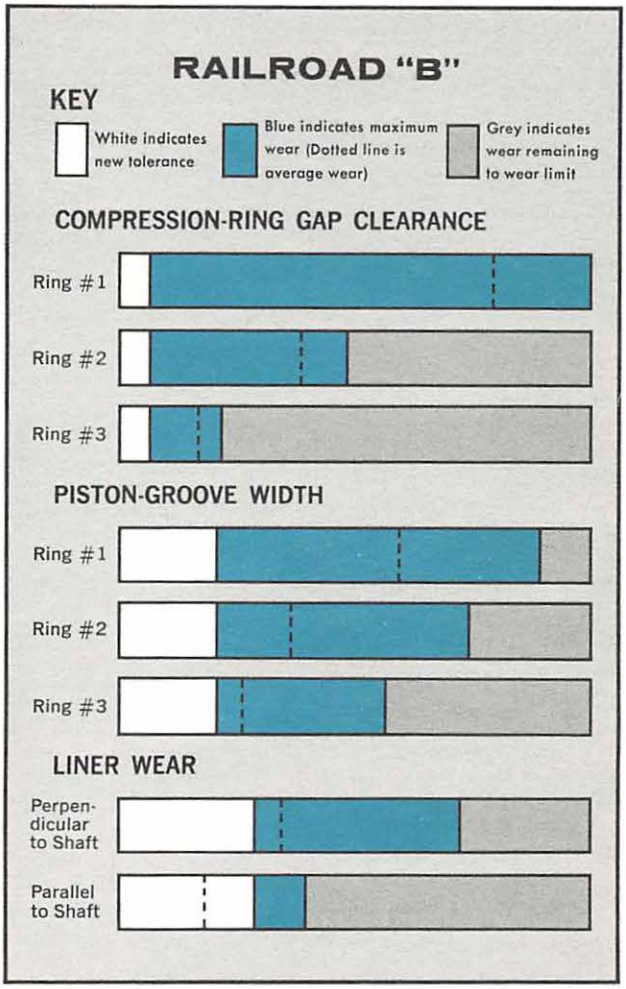
PISTON GROOVE WEAR (Piston-groove width)—Two of the pistons checked showed groove-width increases of 85% of permissible allowance on the top groove. Average for all pistons showed less than 50% wear had taken place.

LINER WEAR (Out-of-roundness)—Only one showed as much as 67% of permissible wear; five were still within the tolerance range of brand new cylinders.

OTHER ITEMS—Crankshaft: no wear. Main and connecting rod bearings: no wear. Wrist pins and bushings: no wear. Valves and valve seats: good condition. Gears: still had original shaving marks at teeth ends. Camshafts: good condition. Water side of block and liner: in excellent condition and lower liner fits all good.

CONCLUSION:

The engine could have operated another year before top-deck overhaul, with the exception of the top compression ring on several cylinders. It would be possible to rebuild the engine with all but one of the original liners and all but four of the original pistons and expect *at least three additional years of operation* before another top deck overhaul. This railroad is still weighing the relative advantages of a three- or four-year overhaul period.



WHAT THESE FINDINGS MEAN TO YOU:

The ALCO 251 has been in railroad service only 3 years, but these results establish its superiority over competitive engines with 18-24 month overhaul schedules. The inspections prove the 251 can go *at least 3 years*—and more in most cases—without power-assembly change.

Lengthened overhaul schedules are made possible because of the ALCO engine's advanced thermal engineering and basic simplicity of design. Parts refinements like hard chrome-plated liners, Ni-resist ring-groove inserts on pistons, stellite valve-seat inserts—all contribute to the engine's improved reliability.

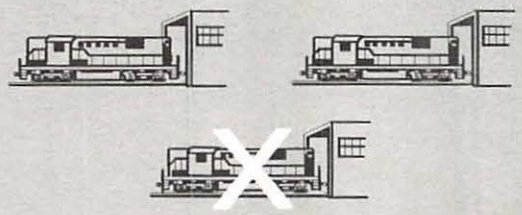
The railroads, reported on here, proved for themselves the wear-resistance superiority of the 251. As a result, they are now establishing cost-saving shopping schedules and maintenance programs for their fleets of 251 diesels. Yet, even these present schedules may be extended as additional reports of trouble-free service become available.

MAINTENANCE SAVINGS OF ALCO 251 DIESEL, PLUS LOWER FUEL CONSUMPTION, MEAN 25-35% REDUCTION IN OPERATING COSTS

1. FEWER OVERHAULS

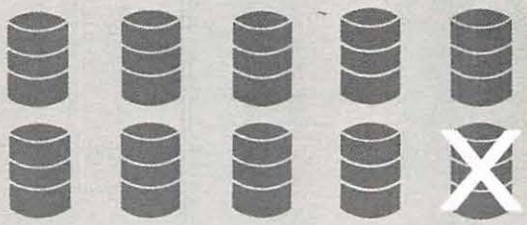
The ALCO 251 36-month overhaul period eliminates one top-deck overhaul in three, as compared to competitive locomotives. You save through . . .

- lower direct parts and labor cost
- reduced maintenance overhead
- increased locomotive availability



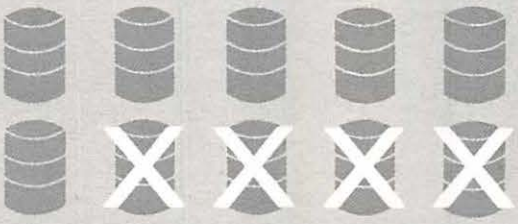
2. LOWER FUEL CONSUMPTION

Railroads' own tests have proved that the ALCO 251 diesel consumes at least 10 per cent less fuel than competitive engines.



3. LOWER LUBE-OIL CONSUMPTION

Similar railroad tests indicate lube-oil consumption of 251 can amount to 40 per cent less than competitive makes.



TOTAL SAVING: 25 to 35 per cent in operating costs, or almost **$10,000 PER ENGINE PER YEAR**

HOW YOUR RAILROAD CAN REALIZE THE SAVINGS OF THE 251 ENGINE

There are three ways railroads can achieve the large reduction in costs offered by the ALCO 251:

1. PLANNED LOCOMOTIVE REPLACEMENT — Through a program of planned replacement of old diesel-electrics with new ALCO locomotives, you will be assured of a young, efficient motive-power fleet, and avoid peaks of investment.

2. PLANNED ENGINE REPLACEMENT — By replacing aging engines—either ALCO or competitive makes—with the 251, you will gain the advantage of new power—at a significantly lower cost.

3. 244 REPROFITING — Through "reprofiting"—a factory program that applies the improvements of the 251 to the 244—costs on these older engines are reduced and their operation improved.

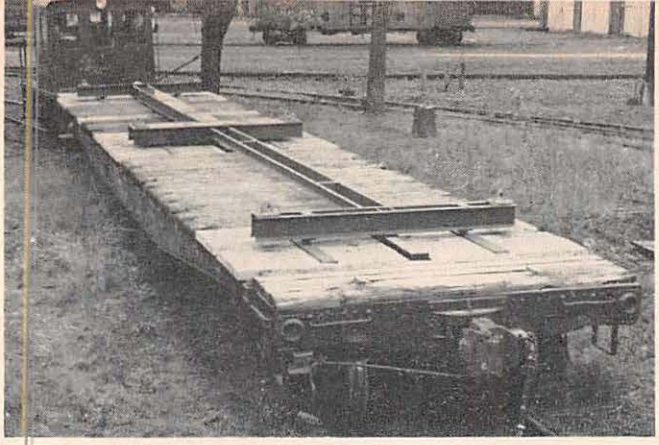
Your ALCO sales representative and other ALCO motive-power specialists will be happy to work with you, to help establish the best possible program for your particular needs. There is no obligation, of course, and the results can mean a significant forward step in your railroad's profits.

At ALCO, we have been serving the motive-power needs of American railroads since 1848. We have never served them better than today, and ALCO will always play this significant role in railroading.

ALCO

ALCO PRODUCTS, INC.
TRANSPORTATION PRODUCTS DIVISION
SCHENECTADY, NEW YORK

DIESEL-ELECTRIC LOCOMOTIVES · DIESEL ENGINES · RENEWAL AND MODERNIZATION PARTS · REPAIR AND REBUILD SERVICES



HYDRAULIC CUSHIONED floating frame in center position on Santa Fe 60-ft car.

END DOORS have conventional locking equipment. Recorder showed impact less than 1 mph in container.

This Container Stops Damage

Car-mounted cushion design protects rail-haul portion of combined fishyback-piggyback pineapple shipment, Hawaii to Chicago.

Twenty-one hundred cases of canned pineapple recently moved more than 4,500 miles by fishyback and piggyback—and not a can was damaged.

Matson Navigation Company and Santa Fe handled the haul from Hawaii to Alameda, Calif., to Chicago. The cargo, loaded in two aluminum containers built by Trailmobile, rode a Matson freighter across the Pacific. A Santa Fe 60-ft flat car equipped with Pullman-Standard's special cushioning device was used for the overland part of the trip. The containers were lifted directly from ship to flat car at Alameda.

The experimental move illustrated the compatibility of ship-rail container movement. The same hold-down devices on the container operated both on shipboard and on the flat car.

The new type containers with end doors—they're also designed for side-door loading—are 24 ft long, 8 ft wide and 8½ ft high. This size is currently used in sea transport by Matson.

The cushioning device consists of a frame which rides on rollers on the deck of the car. Its maximum cushion travel is 30 in. in either direction from normal position. The containers are supported at each corner with the same cone-shaped supports used aboard ship. Pins inserted through the cones lock the containers in place.

Pairs of tracks are applied to the car deck at the center and at each end for the rollers to ride on. A guide between each pair of tracks restrains the frame from lateral or vertical motion and permits only the lengthwise motion necessary for the cushioning action.

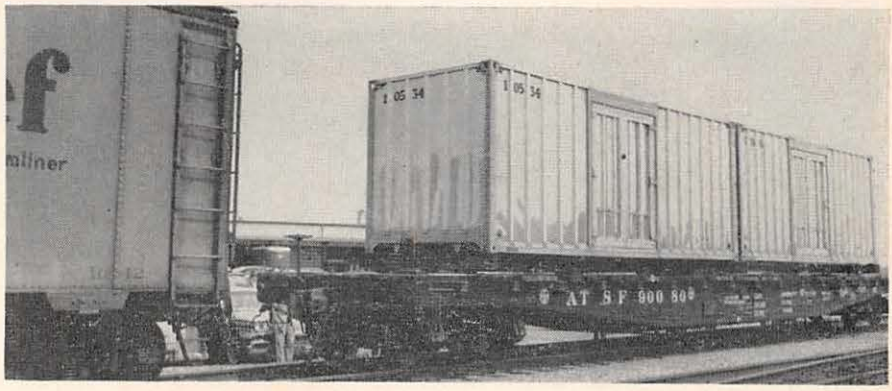
Near the center of the car are two vertical lugs spaced about 90 in. apart and fastened to the center sill of the car. Horizontal lugs, spaced the same distance apart as the vertical lugs and at the same location, are applied inside the center channels of the rolling frame.

When the car is impacted, the vertical lugs transmit the impact through a hydraulic cushion unit spaced between the horizontal lugs into the rolling frame. The shock experienced by the car is transformed into rolling action on the frame.

The cushion unit consists of a cylinder with a tapered metering pin and a piston arrangement. It generates an approximately constant force during compression, and has a tendency to utilize its full travel at any impact speed. A preloaded steel compression spring is placed around the cushion. After the frame reaches maximum displacement, the return spring has sufficient energy to roll it back to center.

Impact tests made at Corwith yards pointed up the efficient action of the cushioning device. At 6 mph there was 25-in. frame travel, and at 8 mph, 27½-in. travel. In both cases, a recorder inside the container at the rear showed an acceleration of less than 1 mph. Pullman-Standard's research and development department is developing further applications of the cushioning principle for other type cars.

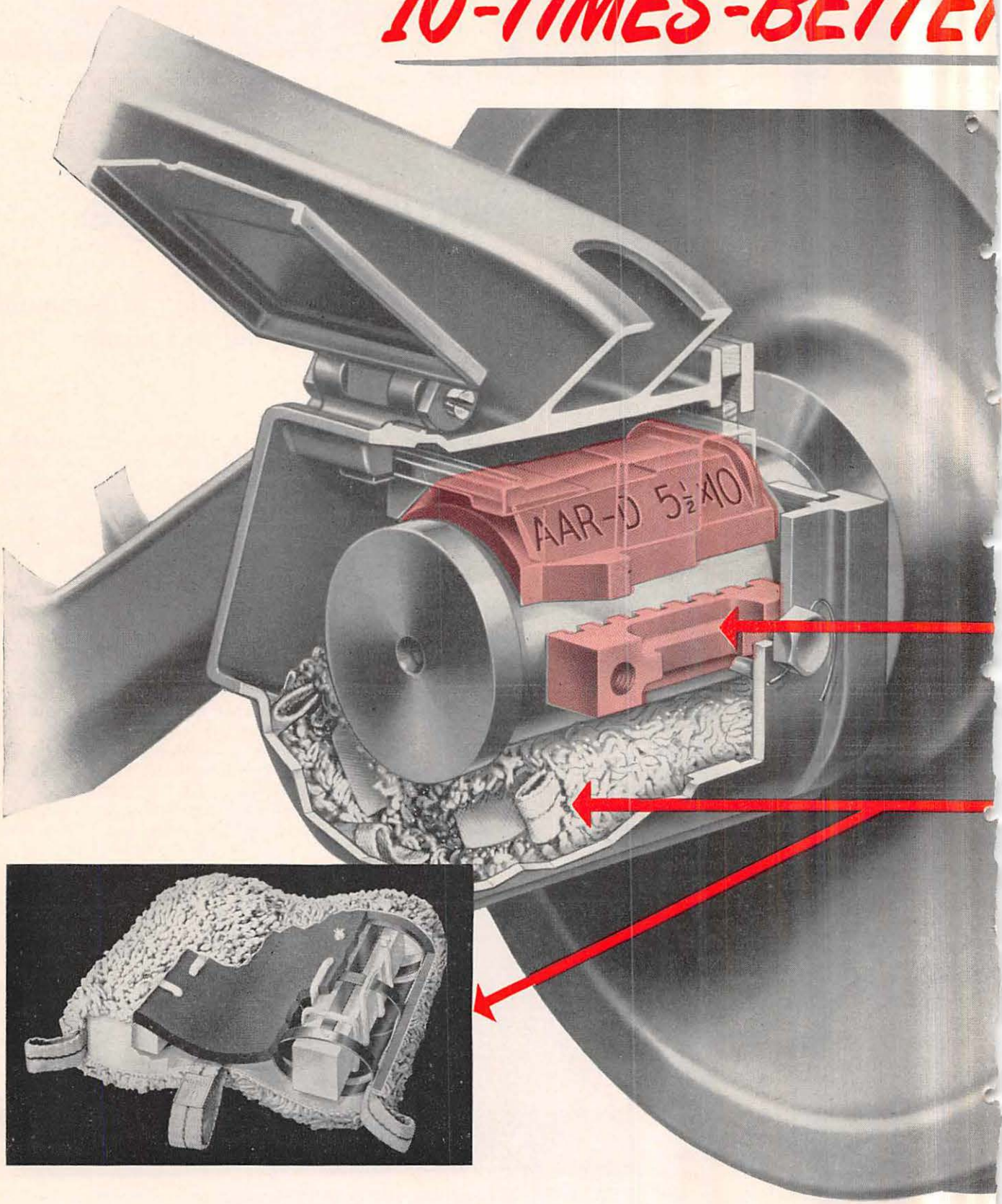
The cases of pineapple, packed by Libby, McNeill and Libby's Pineapple Division plant in Honolulu, were stacked throughout the containers without bulkhead separators. There were no bulkheads at the end doors.



NEW TYPE ALUMINUM CONTAINER is designed for side door loading.

NOW YOU CAN GET

10-TIMES-BETTE



BEARING PERFORMANCE

at a price you can afford to pay

Magnus Lubricator Pads maintain constant journal contact. Even in coldest weather there's minimum displacement. And R-S Journal Stops stabilize the whole bearing assembly – virtually eliminate hot boxes and cut maintenance costs all along the line.

MAGNUS R-S JOURNAL STOPS

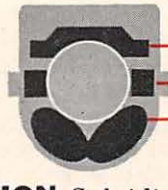
Bolted to the inside of the box, on both sides of the journal, Magnus R-S Journal Stops positively prevent displacement of bearing, wedge or lubricator pad, even under severe humping, braking or road impacts. By *stabilizing* the entire journal bearing assembly they eliminate the major causes of bearing failures — increase miles per hot box *ten times;* miles per cut journal, *fifteen times*! In short, they cut maintenance and operating costs all along the line — double bearing and dust guard life, reduce wheel flange wear, extend maximum safe period between repacks. Journal Stops increase new car cost by less than 2 per cent and *pay for themselves* in less than three years!

MAGNUS LUBRICATOR PADS

Designed by bearing experts, the new Magnus Lubricator Pad incorporates, in a unique one-piece, twin-lobe design, *every* desirable feature of pad construction. Three-way wicking — circumferential, internal and center feed — provides maximum oil feed from an abundant oil supply. Each pad holds more than 2½ times its own weight in oil, providing an extra margin of safety when running on a "dry" box. Non-sagging internal flat steel springs, firmly anchored in place, hold the felt-backed tufted duck cover in contact with the journal at all times — winter and summer. And Magnus pads are self-centering on the journal — there's minimum displacement even in coldest weather.

For complete information on Magnus Lubricator Pads and R-S Journal Stops, write to Magnus Metal Corporation, 111 Broadway, New York 6, or 80 E. Jackson Blvd., Chicago 4.

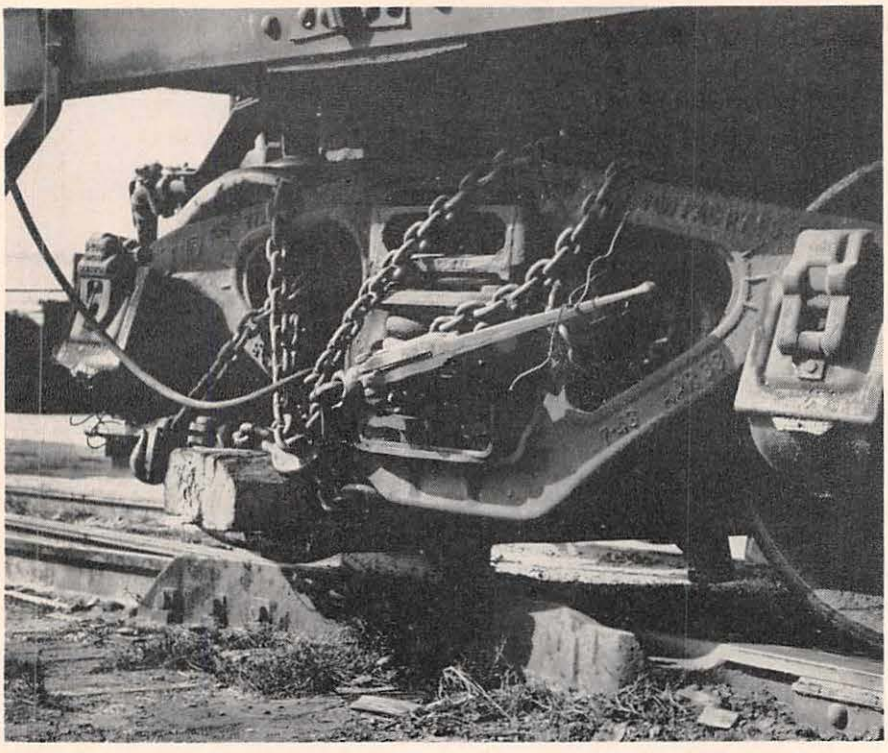
MAGNUS



SOLID BEARINGS
R-S JOURNAL STOPS
LUBRICATOR PADS

GEARED TO PROGRESS
RPI MEMBER

MAGNUS METAL CORPORATION *Subsidiary of* **NATIONAL LEAD COMPANY**



CHAINED in position, skid holds defective wheel assembly off rail. Oil lubricates rail ahead of skid.

SKID rides easily over self-guarded frog without complications.

'Crutch' Carries Crippled Cars

Southern Pacific skid moves disabled cars with minimum delay; eliminates need for calling relief crew and crane.

The Southern Pacific has come up with an inexpensive solution to a difficult problem.

The problem was how to minimize delays in moving cars which sustain broken wheels, burned-off journals, or anything else interfering with their rollability.

SP's answer is to use a steel skid placed between the rail and a bad-order truck, and cross-chained to the truck sides. The device will negotiate curves and go through self-guarded frogs, crossings and turnouts without difficulty.

A crippled car can be moved as part of a regular train, even when coupled into the middle, for distances up to 25 miles.

The entire installation can usually be made by two men in less than an hour. The original model was developed on the SP's Texas and Louisiana lines. It was so successful that 16 copies without modification are now in system use.

The device costs about $53 to construct, is made of scrap parts, requires no maintenance, and does not wear out with normal use.

"It's one of those items we hope we don't have to use," say SP officers, "but it sure comes in handy when we need it."

The skid is made from an 8-ft steel channel, on the under side of which are welded two short pieces of scrap wheel in standard gage. The hollow channel is filled out by inserting a tapered 6 by 8 tie on which the car weight rests.

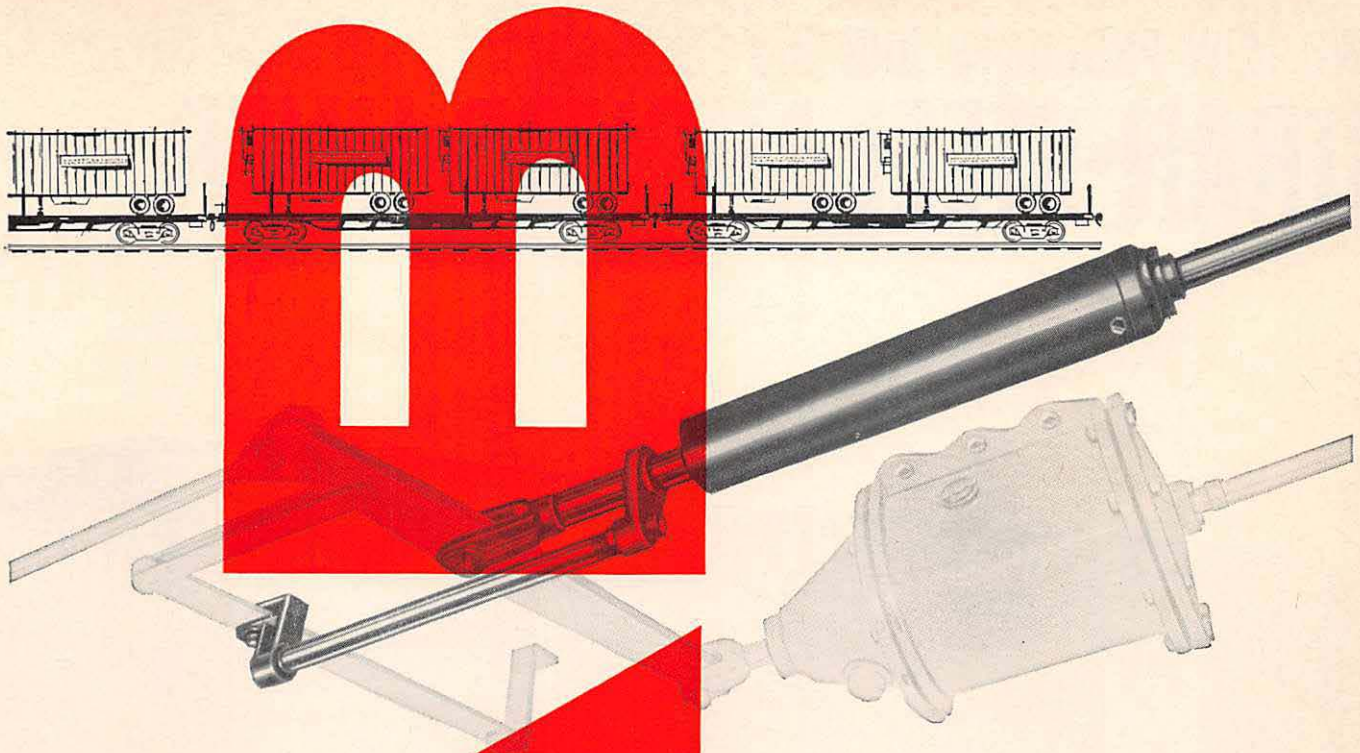
Before the skid was devised, it was frequently necessary to call out the relief outfit, with its rail-mounted crane, to install an emergency truck. In some situations, a tie or short piece of rail was improvised as a skid on which the car could slide for a short distance. This method was time-consuming and not satisfactory. It could result in derailments, particularly when it was necessary to slide the car over such things as frogs and turnouts.

In a typical application of the skid, a division point is notified by radio or telephone when a crippled car is spotted. If practical, a special truck equipped with a 100,000-lb winch is dispatched to lift one end of the car. If the location is inaccessible to the special truck, the car is raised by hydraulic jacks or an A frame.

The skid is set on the rail in gage, under the truck side frame and between the truck frame and the bad-order wheel and axle. The tapered timber side is against the truck side frame. It is secured by fastening chains with load binders around the journal boxes or truck side frames, whichever is more convenient.

Two 1-gallon oil cans, filled with car oil, are fastened to the truck side frames or on each side of the car. A hose attached to each can discharges the lubricant onto the rails immediately ahead of the skid.

"Much of the credit for the success of the skid—in trimming hours off the time it takes to clear the main line in derailments—is due to the work of the individual division wrecking crews," says J. W. Corbett, SP's vice president of system operations. "They're the ones who make this thing work."



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AAR APPROVED

S A B exclusive fully automatic double-acting Brake Slack Regulators eliminate need for manual manipulation and will assure generous savings in terminal servicing and expediting of day-to-day train movements. Distinctive two-way action of S A B Automatic Brake Regulators makes it possible to completely regulate ALL slack variations for efficient transmittal of braking power to the brake shoes. For full information on S A B Automatic Brake Regulators write...

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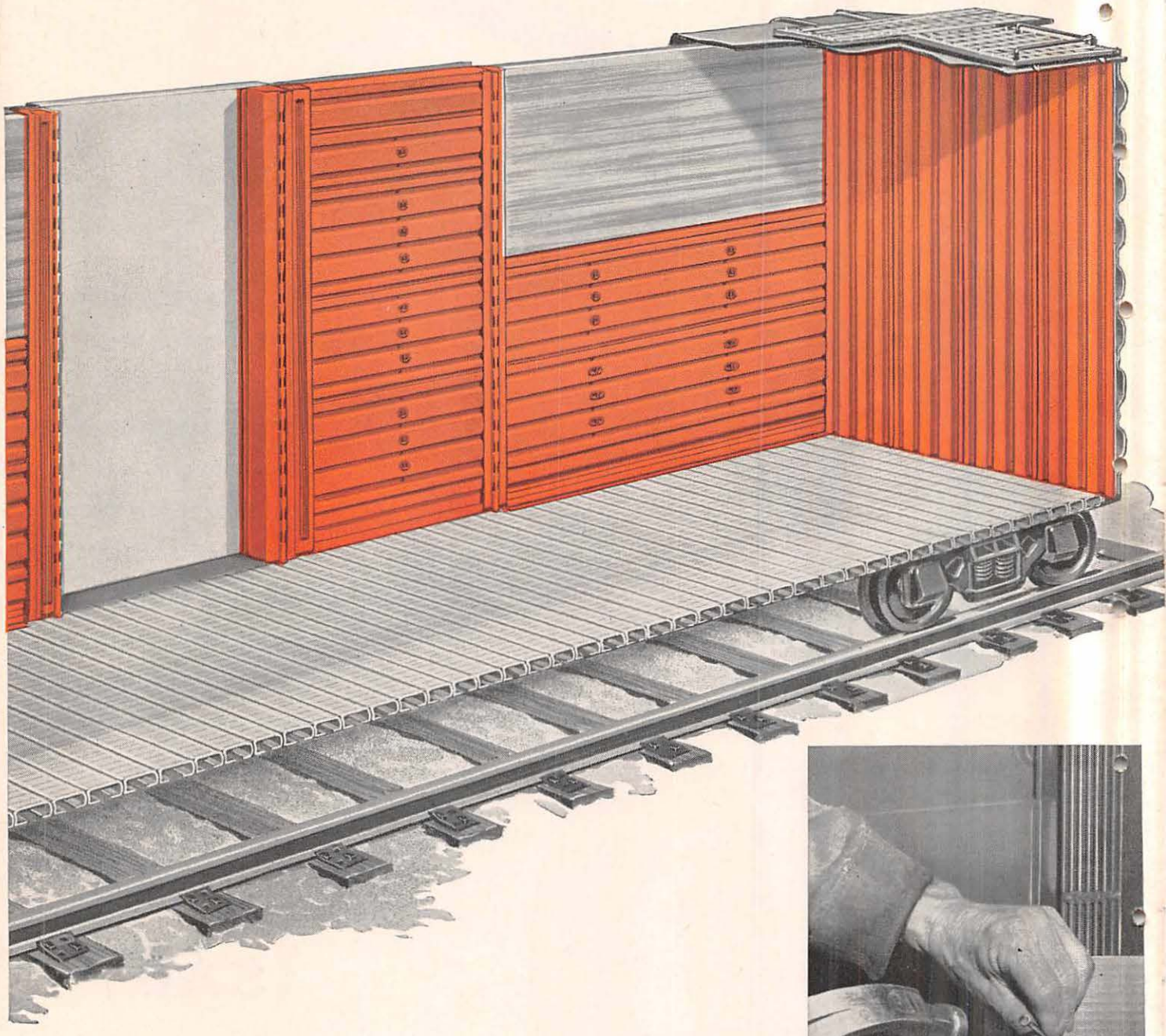
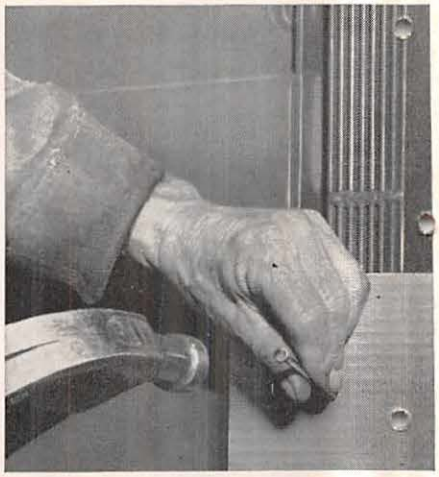
TWO NEW PRODUCTS JOIN N-S-F®

STRAN-STEEL ANCHOR LINER WITH





NAILABLE STEEL DOORPOSTS take repeated nailing of grain doors without damage, keep car in revenue service. Nailable Steel Doorposts, usable with either plug or sliding doors, also protect vulnerable doorway areas against lift truck damage.

NAILABLE STEEL DOORPOSTS

NOW, NEW AND REBUILT FREIGHT CARS CAN LAST LONGER, SAVE AND SERVE MORE

Since its introduction 12 years ago, N-S-F, the original NAILABLE STEEL FLOORING, has been put to work in more than 70,000 freight cars by 62 leading railroads. Now, Stran-Steel Corporation has developed two new companion products to help you get still more miles of Class A service from new and rebuilt rolling stock.

STRAN-STEEL ANCHOR LINER circles the car with a corrugated wall of GLX-W high-strength steel that reduces dead weight compared to ordinary carbon steel liners of equal strength. Side heights are variable, with full height on the ends to strengthen these areas substantially and protect against bowing. Integrated with the liner are dozens of recessed strap anchors for fast, safe strapping. Sidewalls and decking account for 70% of rip tracking; shielding these surfaces with Stran-Steel Anchor Liners and N-S-F can make a healthy reduction in maintenance costs.

NAILABLE STEEL DOORPOSTS strengthen this vulnerable section against lift truck damage and stand up for years of service. Repeated nailings of grain doors will not weaken or splinter them.

These two new products—Stran-Steel Anchor Liner with Nailable Steel Doorposts—join N-S-F to give new and rebuilt freight cars complete protection, lading flexibility. Such cars carry all types of lading—rough, sacked, finished or bulk—and stay in revenue service longer. Information available from Stran-Steel representatives in Chicago, New York, Philadelphia, St. Louis, Cleveland, San Francisco, Minneapolis and Atlanta. In Canada, N-S-F and Stran-Steel Anchor Liner with Nailable Steel Doorposts are sold by International Equipment Co., Ltd., Montreal.

WRITE FOR FREE ILLUSTRATED BOOKLET

Dept K-34
STRAN-STEEL CORPORATION
Detroit 29, Michigan • Division of
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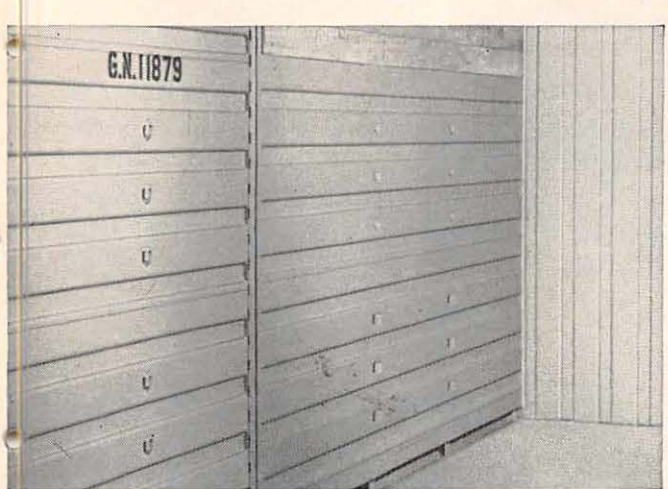
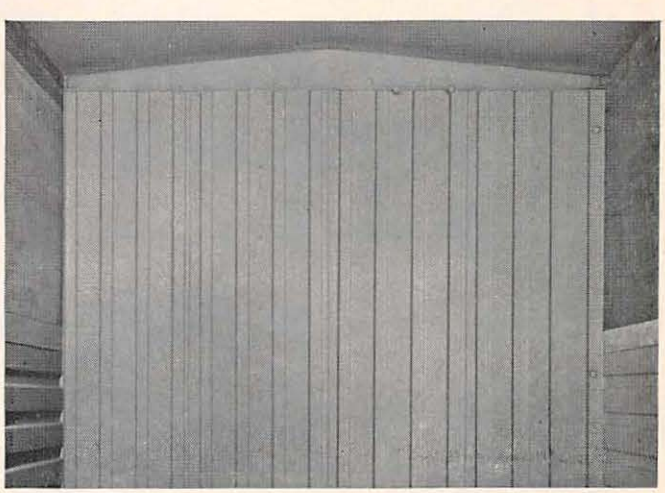


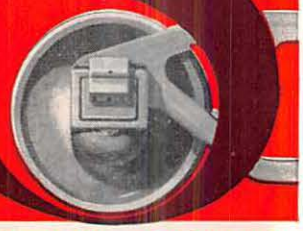
SIDEWALLS, too, are protected against the damage which commonly causes rip tracking. Stran-Steel Anchor Liner, shown here on both wall and plug door, also provides many recessed strap anchors to brace lading quickly, safely.



ENDWALLS, lined to the full height of the car, are substantially strengthened and protected against bowing. Stran-Steel liner is made from new GLX-W steel which, compared to mild carbon steel, gives equal strength with less dead weight.

AAR APPROVED

stop hot boxes



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*Patent Pending

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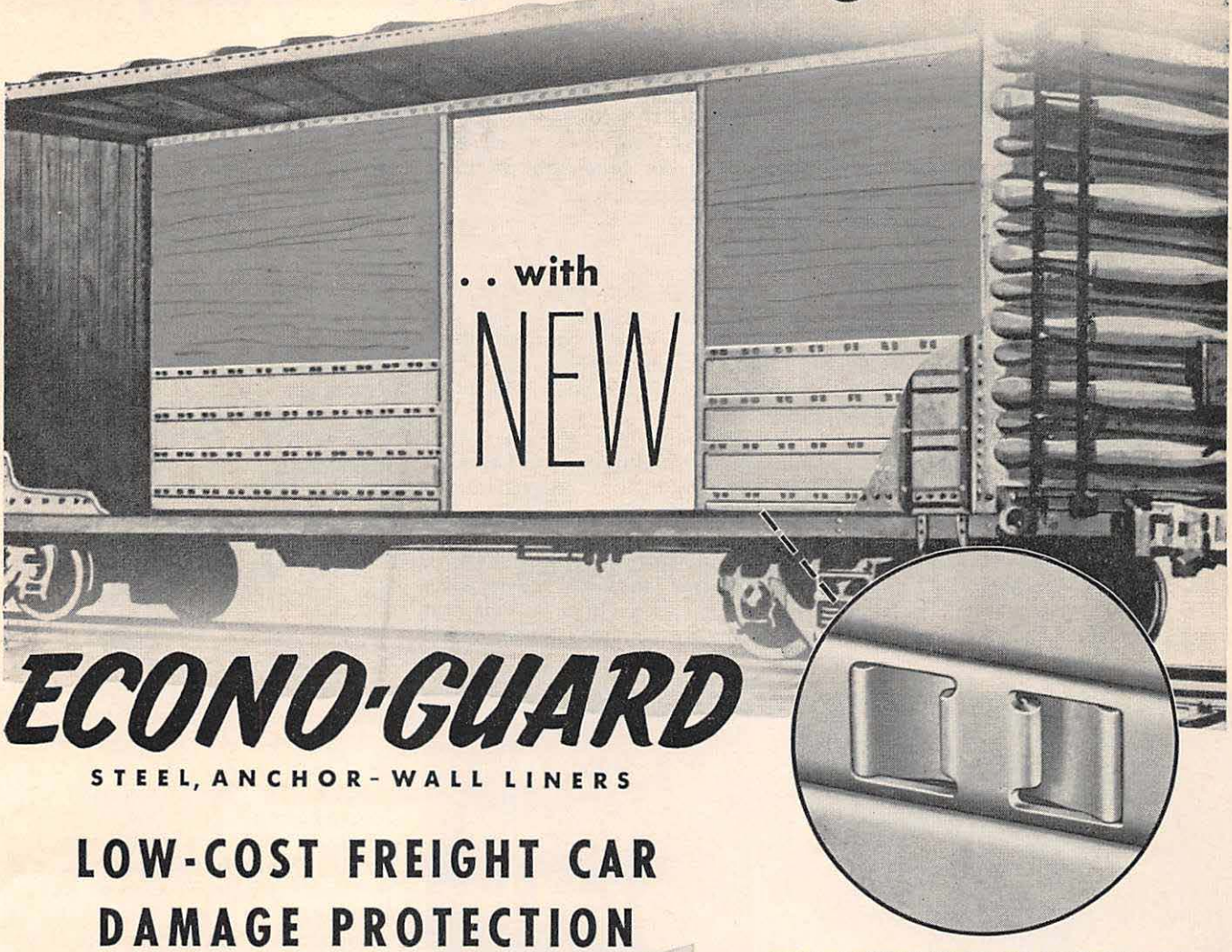

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Lubricators Today and

How well are journal lubricators doing the job for which they were designed?

To find the answer, Railway Age asked three railroads, the Louisville & Nashville, Norfolk & Western and the Pennsylvania for comparative data showing pad and waste performance. These roads were selected because it was known that they maintained accurate records.

Mechanical department officers of these roads were also asked for their opinions on lubricators and possible future steps to be taken in combatting the mechanical department's No. 1 problem, the hotbox.

Over 600,000 freight cars are equipped with journal lubricating devices. They have been applied in compliance with the AAR Mechanical Division's 1956 mandate that all cars with plain bearings in interchange be so equipped by January 1, 1960. With only approximately 30% of the freight-car fleet now meeting this requirement, it is a foregone conclusion that the effective date in Paragraph (j) (3) of Interchange Rule 3 will be extended at the Division's annual meeting this week.

There are some who question the value of lubricator pads. Certainly, AAR hotbox statistics for the past winter might very well be used to back up their judgment. The overall hotbox performance was the poorest in recent years.

But there are many factors besides lubrication that contribute to hotboxes. For this reason, it is believed that a more accurate appraisal of the relative merits of lubricators and waste packing can be made by a study of an individual railroad's comparative data. It is reasonable to assume that approximately the same attention would be given to both pad- and waste-equipped cars on each road.

Another important point that should not be overlooked is the fact that the data presented here include the performance of 25 different pads during the periods covered by the reports. AAR approval has been withdrawn from several of these pads because of sub-standard performance. As indicated by the spokesmen, the three roads and undoubtedly all roads will eventually restrict applications to possibly four or five pads producing the best records on their respective roads.

Here are the answers given by the three railroads to the questions we asked:

Q. Are you satisfied with lubricator pad performance?

L&N—We are not satisfied because we continue to have hot boxes. However, our pad performance is consistently better than waste packing by a 5 to 1 ratio.

N&W—No. We believe better performance will be obtained as improvements are made in pad design and materials. Ultimately, we may have pads that will give four years of service. Depending on costs, it may be an economic possibility to scrap pads that have this service life rather than attempt to renovate them.

PRR—We are not satisfied with lubricator performance but we are reasonably satisfied with lubricator progress.

Q. Will you standardize on a few pads?

L&N—Yes. We hope to do so after gaining more experience. We now have 16 different pads in service. We will continue to try out new types that show promise.

N&W—Yes. Probably on 4 or 5 pads. But we will continue to test new designs as they become available.

PRR—We will probably standardize on four or five pads. But we will continue testing new designs.

←NORFOLK & WESTERN leads field in lubricator application with 85.5 per cent of cars equipped.

Tomorrow on Three Roads

Q. Are journal stops essential for good results?

L&N—Yes, some kind of control is necessary. The movement of the journal should be restricted to get good results. With 600 cars equipped with pads and stops in 9,736 car months we only had one hot box.

N&W—Control of journal movement is necessary to protect the back seal. We have tested flat back controlled clearance 160-deg bearings with 50-in. wedges on 100 new 70-ton hopper cars to determine if the greater contact area will prevent movement of the journal relative to the box and protect the back seal. Results have been promising enough so that we plan to continue testing by equipping 1,000 new 70-ton hopper cars with this bearing. The bearings are of pre-war length. Lid seals and several types of rear seals will be applied.

PRR—Stops are valuable. But we believe that greatest return on investment is obtained by application of pads. We can apply approximately three car sets of pads for cost of one car set of pads and stops. The next step may be the application of journal

CUMULATIVE HOT-BOX PERFORMANCE

	N&W Cars on N&W Lines 40 Months—Jan. 1956 through April 1959			PRR Cars on PRR Lines 28 Months—Jan. 1957 through April 1959		
LUBRICATOR*	CAR SETS IN SERVICE APRIL, 1959	NO. HOT BOXES	MILES PER HOT BOX	CAR SETS IN SERVICE APRIL, 1959	NO. HOT BOXES	MILES PER HOT BOX
1.....	19,143	43	7,001,246	16,382	40	2,958,314
2.....	6,699	11	6,062,755	2,574	21	1,080,694
3.....	239	1	4,627,238	221	0	2,748,268
4.....	1,511	3	4,611,931	....	..	.....
5.....	10,551	77	3,572,845	12,027	25	1,984,842
6.....	2,431	8	2,929,759	199	0	1,337,917
7.....	120	1	2,692,611	104	1	1,906,733
8.....	256	1	2,040,321	498	10	311,885
9.....	1,000	1	1,749,664	489	0	721,341
10.....	8,761	56	1,673,413	3,825	92	748,420
11.....	475	107	1,636,506	2,482	186	427,447
12.....	243	3	1,372,094	510	0	1,102,924
13.....	306	0	.....	194	0	2,245,013
14.....	770	0	.....	....	..	.....
15.....	250	0	.....	....	..	.....
16.....	421	0	.....	....	..	.....
17.....	....	..	.....	600	29	318,749
18.....	....	..	.....	185	14	186,190
19.....	....	..	.....	477	0	449,962
All Pads.....	53,176	318	3,066,032	40,767	418	887,227
Waste.....	....	695	1,018,531	....	31,315	150,903

*Numbers have been assigned to specific lubricators listed in data furnished. They do not indicate order of preference.

CUMULATIVE HOT-BOX PERFORMANCE

45 Months—Aug. 1955 through Apr. 1959 on L&N Cars

19 Months—Oct. 1957 through Apr. 1959 on NC&StL Cars

LUBRICATOR	CAR SETS IN SERVICE MAY 1, 1959	CAR MONTHS	Hot Boxes TOTAL	PER 100 CAR MONTHS	PER 54,000 CAR MONTHS
1	10,863	221,465	178	.080	44.82
1*	25	775			
2	11,232	210,982	180	.085	43.20
2*	250	3,496			
3	4,274	70,053	92	.131	70.74
4	298	1,067			
5	5,616	131,165	109	.083	44.82
6	1,055	14,997	9	.060	32.40
7	635	19,399	21	.108	58.32
9	591	849			
10	263	9,446	14	.148	79.92
10*	25	775			
11	109	4,500	5	.111	59.94
11*	25	775			
12	2,430	45,003	75	.167	90.18
12*	250	3,740	1	.027	14.58
13	1	3			
14	596	1,118	1	.089	48.06
16	142	142			
19	433	1,261			
20	10	320	1	.313	169.02
21	1	34			
22	3,043	51,424	141	.274	147.96
23*	25	775			
24**	2	50			
25**	1	24			
26	1,568	20,003	19	.095	51.30
27	84	1,569	4	.255	137.70
28**	1	13			
Total Package Lubricators	43,848	815,223	850	.104	56.16
Total Waste Pack	18,351	2,058,178	10,555	.513	277.02

*With journal stop
**Cartridge bearings

stops or some means for control of journal movement.

Q. Are pads an intermediate measure in the solution of the hotbox problem?

L&N—Yes. There is a place for roller and sleeve bearings, particularly if they can go a longer period without attention. Roller bearings should go at least four years to agree with C.O.T.&S. [Cleaning, Oiling, Testing and Stenciling] on cars. The ultimate objective would be the application of bearings that require checking only at intervals when the car would have to be shopped for other periodical attention.

N&W—Yes. In order to further improve journal performance, a bearing is needed that is of a better design, more dependable in operation, and that will go for longer periods without servicing. Ultimately, this may lead to roller or sleeve bearings.

PRR—Yes. Next step will be an improvement in the journal box assembly. Railroads are not in a position to finance the application of roller bearings to all cars. Sleeve bearings are close to roller bearings in cost.

Q. What are you doing about seals and oil loss?

L&N—We will not spend money on seals that are supposed to be leakproof. If a seal is developed that will pass AAR lab tests we will service test it.

N&W—To date we have not found a satisfactory back seal. Control of journal movement relative to the box is essential. Without this protection probably no seal can give satisfactory performance. The oil loss situation has improved since the 1/2-in. oil level was adopted.

PRR—No good seal of reasonable cost is available. We consider cost of oil loss is minor if 1/2-in. oil level is maintained.

Q. How do you renovate lubricator pads?

L&N—We use the services of an outside supplier. Ripped pads are sewn. Pads that can not be reclaimed are scrapped.

N&W—We renovate pads at three

(*Continued on page 68*)

'We Didn't Make Much Headway'

You take one step forward, and slide two steps backward. That's the way government treatment of the railroads looks to G. A. MacNamara, Soo Line president. Here, in part, is what he said at a meeting of the New York Society of Security Analysts on June 5:

"The Transportation Act of 1958 was passed by both houses of Congress by an overwhelming majority. It provided, among other things, a more realistic approach to the discontinuance of no-longer-needed services and greater freedom in setting prices for services performed. In the very next Congress (within an eyelash of the very same Congress) legislation is enacted that would add to our federal tax burden through increased payroll taxes to support increased payments under Railroad Retirement and Unemployment Compensation, thus taking away a large portion of the monetary benefits provided through the 1958 Transportation Act.

"In connection with the Transportation Act of 1958, the Soo Line has received orders from the Interstate Commerce Commission providing for the discontinuance of two pairs of secondary passenger trains which will result in a saving of out-of-pocket losses of approximately $200,000 annually . . .

"In contemplation of the greater freedom permitted by the legislation as it affected the pricing of railroad services, the Soo Line proposed the first 'guaranteed rate' in the United States in an effort to meet unregulated water competition . . . The ICC suspended the rate proposal [which] has become a test case to determine the right of American railroads to establish the guaranteed type of rate, which, if approved, will become a valuable tool for use in meeting our competition, particularly of the unregulated variety," Mr. MacNamara continued.

"We are, therefore, faced with this paradox. On the one hand, pursuant to ICC approval, we will save approximately $200,000 annually in out-of-pocket costs by having discontinued little-patronized passenger trains and we have attempted to improve revenues by proposing a compensatory guaranteed rate that would attract competitive traffic back to the rails. On the other hand, the guaranteed rate proposal has been suspended by the Commission and we find ourselves burdened with a further payroll tax increase, authorized by Congress, that will cost the Soo Line an additional $422,000 per annum.

"We didn't make much headway there!"

Letters from Readers

'Equitable Taxation'

Hinsdale, Ill.

To the Editor:

On your question of how to get equitable taxation [Action Page, RA, March 16] this might be added: If a substitute, or common denominator, tax were to be applied to all forms of transportation alike, probably it would have to be a tax on income because there is no other obvious suitable basis.

Taxes on gross income of all interstate segments of the transportation industry would necessarily be collected by the federal government, which would distribute to each state its share of the taxes, in order to insure uniformity. This, of course, would be an innovation calling for new legislation.

Hugh G. Dugan

Marion, Ohio

To the Editor:

I am heartily in accord with your suggestion that railroad companies be given some relief from the almost $400 million they are called upon to pay in state and local taxes, whereas competing agencies of transportation pay little or no comparable taxes since most of the property such agencies use is government owned. Your suggestion that all transportation property be exempted from taxation and that a substitute tax be imposed on the gross revenue of all transportation agencies seems to me a fair alternative.

E. J. Robisch
Superintendent
Erie Railroad

Stabilizing Jobs

Auburndale, Mass.

To the Editor:

The experienced personnel employed by the railroads today represent a valuable and costly investment to management. Therefore, as my solution to the current question of job stabilization, I suggest there be no new hiring, and no layoffs of men with over two years' (24 R.R.B. months) railroad service. Exceptions to the hiring policy would be supervisory and salaried personnel; retiring of men laid off with less than the 24 months; and seasonal help (like that employed in Florida during the winter months) who would not acquire seniority on roads where they were seasonally employed.

When forces in certain departments are reduced, arrangements would be made to provide temporary or zone work in other departments, with some sort of 40-hour week guarantee, for those with 24 months or more service. Men could (and if laid off *would*) be required to freely transfer from one department to another where a shortage of help existed.

I am willing to bet that the greatest objections to this idea would come from the unions, which, of course, want as many dues-paying members as they can get.

Walter Walker, Jr.
Towerman, New Haven

Good-Neighbor Railroad

New York

To the Editor:

You ought to get the attached clipping into the record.

James K. Miller

[The clipping Mr. Miller enclosed told about a New Haven commuter at New York who got a telephone message that his house in Westport, Conn., was burning down. He hurried to Grand Central Terminal, where the New Haven put him on the 1 p.m. "Yankee Clipper"—which made an unscheduled stop at Westport to let him off. His family was safe and the fire out when he arrived, but the NH's cooperation spared him anxiety.—Editor]

Featherbedding: As the Press Sees It

With near unanimity, the nation's press has rallied to the support of the railroads in their fight to eliminate featherbedding. Hundreds of newspapers in every state in the union—along with numerous periodicals—have expressed opinions on the subject. Here are some of them.

► Feathers begin to fly nowadays when you mention "featherbedding" to a railroad brotherhood man. That is progress. It has long been time for railroad men—management and labor—to face squarely and in public the problem of featherbedding. It ought to be embarrassing to both.

—Norfolk Virginian-Pilot

► In finally making a public issue of such flagrant featherbedding, the Association of American Railroads is performing a public service. Its success or failure will be watched with interest by many an industry plagued by the same troubles—construction, trucking, and printing, to name three.

—Fortune

► Labor featherbeds exist thanks to the power the government allowed unions to amass. Government has made few featherbeds for vice presidents. A railroad management has been deprived of the right to say how many men are needed to run a diesel engine. But it can fire all its vice presidents if it thinks that is to the good of the company.

—Springfield (Mass.) Union

► [AAR President Daniel P. Loomis] is serving notice that when contracts expire in October, the industry is going to cut down featherbedding even if it means a railroad strike. The industry's determination deserves the public's support. Next only to remaining free and honest, the most important problem for U.S. labor is to remain the most productive labor in the world.

—Life

► How long can the railroads provide jobs and give Americans the kind of transportation service the nation must have if, in addition to being regulated and taxed to death by government, the industry must also be featherbedded and lobbied to death?

—Hot Springs (Ark.) Sentinel-Record

► This is a point which the unions should consider—whether they are killing the goose that lays the golden eggs by keeping the railroads loaded with unrealistic practices costing them half a billion dollars annually.

—Houston (Tex.) Post

► It's as much to the interest of railroad labor as it is to management's to see that the nation's railroads stay in business. If equitable improvement can be made, it certainly should be.

—Buffalo (N.Y.) Courier-Express

► If either the President, the brotherhoods or the people "are tired of hearing about railroad troubles," they would be wise to put aside their ennui and do something remedial about them—especially indefensible featherbedding.

—Staunton (Va.) Leader

► The fact of the matter is that for the railroads technological advances have been so great, effective competition has become so menacing that even the doubling of passenger and the quadrupling of freight productivity in 60 years are not enough to expect. And the margin of solvency for the railroads and of safety for the nation is too narrow to accommodate the luxury of vested and vestigial practices.

—Christian Science Monitor

► Labor leaders should be realistic enough to read the signs of the times and to shape their actions accordingly. Rights to jobs mean nothing if the jobs disappear.

—Utica (N. Y.) Press

► The railroad unions have a record of responsibility. The head of the Brotherhood of Locomotive Engineers says he will give serious consideration to the Loomis suggestions. It would be good for the industry, the unions and the country if needless costs can be cut through negotiation.

—Baltimore (Md.) News Post

► If this [featherbedding] foolishness affected only the carriers and their labor one might be inclined to allow them to remain in their folly, but the costs of this nonsense to the tune of hundreds of millions of dollars annually is paid for by the general public.

—Grain & Feed Review

► The general public will have a big stake in the forthcoming featherbedding fight. In the final analysis, it is the consumer—John Q. Public—who pays this tribute to economic piggyback riders in the form of higher prices.

—Peru (Ind.) Tribune

► If carriers and brotherhoods can't settle the rules dispute in bargaining this fall, the issue by law must go to federal fact-finding. It would be far better for the parties to submit rules questions to an impartial panel before the pressures of bargaining build up, and to negotiate later on the basis of recommendations that result from a study of the pros and cons of today's work practices.

—Bismarck (N. D.) Tribune

► Both the brotherhoods and the public here in the U. S. stand only to gain by facing up to the fact that the railroads do have a problem and that a fair day's work in return for a fair day's pay will be an important step in re-establishing the financial stability of our basic transport.

—Parkersburg (W. Va.) News

► It is apparent that work rules designed to protect jobs have only succeeded in destroying them. Nonoperating employees have been the chief victims of these rules, but trainmen themselves have also suffered heavily.

—Financial World

► You would think that the consciences of the firemen who tend no fires and the brakemen who tend no brakes would bother them at night. Both they and the unions which back them certainly are guilty of practices which contribute to inflation and moral decline.

—Topeka (Kan.) Capital

► If the railroads are to remain in private ownership, they cannot surrender management decisions to union leaders who, by the very nature of their positions, are required to fight for every make-work practice.

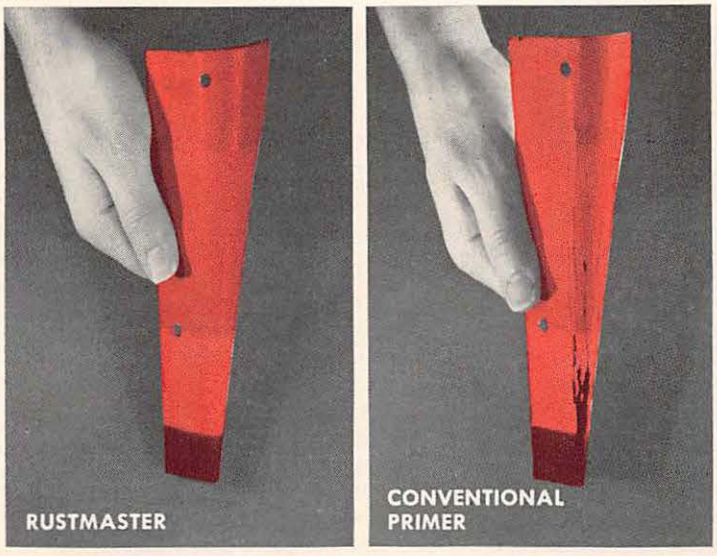
—Chicago (Ill.) Tribune

► It is better that the country suffer severe strikes and all of their inconveniences than to keep on piling up immoral, unsound and uneconomic practices, one on top of the other.

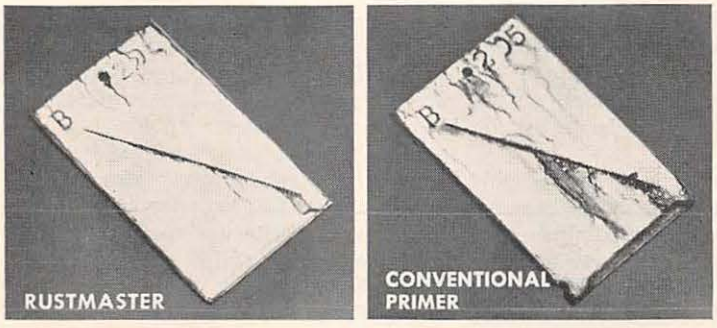
—Economic Intelligence

Revolutionary Metal Primer...

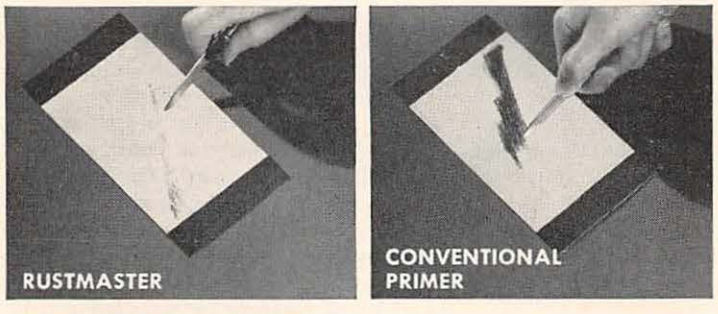
RUSTMASTER



PROOF OF BETTER ADHESION—Rusted metal sheets were coated with primers and finish coats and exposed to weatherometer at 95 degrees and 95 per cent humidity for 300 hours. They were then subjected to severe bending in conical mandrel. Conventional primer cracked and broke away from surface. RUSTMASTER showed little sign of stress revealing far greater flexibility and adhesion.



PROOF OF BETTER ENDURANCE—In salt spray test, metal panels were coated with primers and finish coats and scribed to bare metal. Panels were then subjected to salt spray test for 500 hours. "Conventional" panel had severe blistering and under-film corrosion. RUSTMASTER restricted corrosion to scribed area, proving higher anti-corrosive qualities.



PROOF OF BETTER PROTECTION—Primers were applied to rusted metal panels and exposed to weatherometer test for 1600 hours. Scraping of both panels with knife blade showed that conventional primer pigment remained on the surface of the rust. RUSTMASTER vehicle and anti-corrosive pigments were bound into the rust, proving deeper penetration, more protection.

Penetrates rust faster and more thoroughly, dries faster, and gives better protection

Secret to the remarkable RUSTMASTER performance is a special surface wetting additive*. This additive gives the vehicle and pigment in RUSTMASTER superior penetrating power through rust which remains after average surface preparation.

This protective primer pierces tight rust layers and actually forces its way to the metal surface. Once there, it bonds firmly with the substrate, driving out corrosive moisture and air remaining in microscopic pores. This bonding action produces an extremely strong, flexible, durable finish.

The swift penetrating action of RUSTMASTER makes it fast-drying, too—waiting period before applying finish coat is now hours instead of days.

So successful have been exhaustive laboratory tests, that RUSTMASTER wetting agent is now being extensively field tested by the Lead Industries Association in formulas for Red Lead and Modified Red Lead Primers, and is included in experimental formulations recommended by the Association to industry for field testing.

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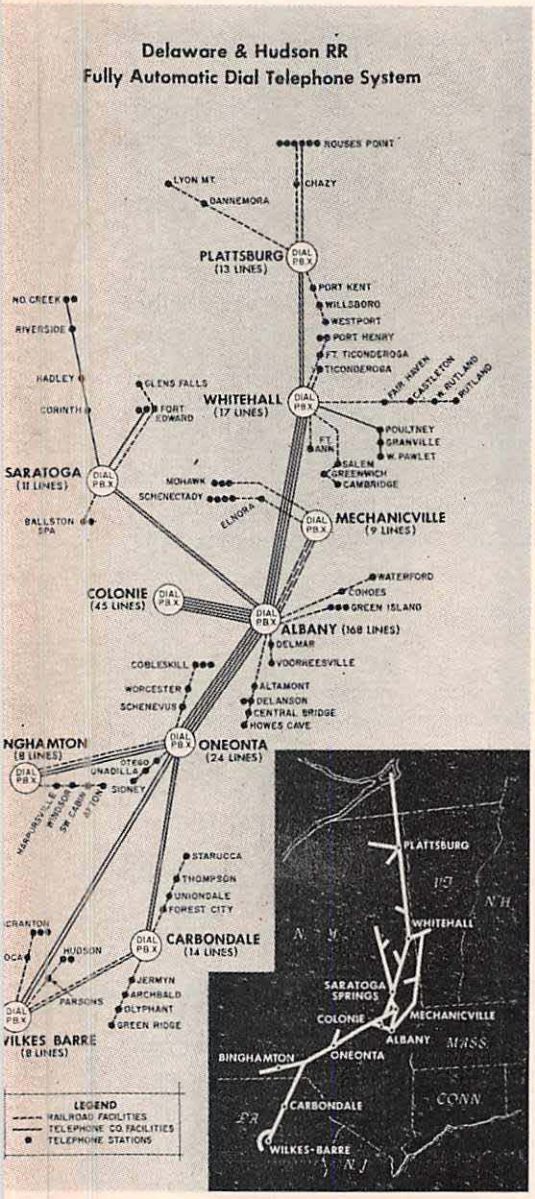
Dial Phones Save D&H Money

Automatic telephone system includes 10 dial exchanges with lines to all railroad offices. Party lines have been established for smaller offices. The system provides around-the-clock service.

The Delaware & Hudson is saving time and money since it installed a fully automatic dial telephone system.

Time is saved because the system provides direct contact between employees having business with one another. It's quick and economical that way. Money is saved because toll charges have been drastically reduced. The telephone system's automatic dial PBX's provide dependable 24-hour daily phone service.



FULLY AUTOMATIC dial telephone system on the Delaware & Hudson includes 10 dial exchanges (large circles on map) with lines to all railroad offices. Smaller offices are on party lines.

A dial PBX has been installed at each of 10 major towns and cities along the D&H. Each line connects to one or more dial telephones in an office. To reach the smaller offices, party lines were established with up to four parties on one line. All PBX's have sufficient capacity for expansion, if needed. The party line stations have code ringing and a reverting call arrangement.

The main feature of the dial telephone system is that it permits a man in one D&H office to dial directly any other railroad office. If, for example, the freight agent in Oneonta wants to call the freight agent at Plattsburg, he finds, from the railroad's telephone book, that the Plattsburg agent's phone number is 5492. He also finds that the three-digit code to make calls from Oneonta to Plattsburg is 564. To make his call, he dials 5645492. The first three digits (564) route his call through dial PBX's at Albany and Whitehall into the Plattsburg dial PBX. Calls from a party line off one exchange, to a party line station on another exchange, are made in similar manner.

The directing digits are required only for calls made through more than one exchange. All party line numbers have four digits. On any one party line, the first three digits are identical. The last digit is used to determine the code ringing, such as 1 short, 2 short, 1 long.

To make a call from one station on a party line to another station on the same line, the following procedure is used:

When the agent at Salem (7531) wants to call the agent at Cambridge (7535), the Salem agent picks up his handset and dials 7535. He receives a busy signal, then replaces his handset. The phone will ring with a succession of four short rings, a pause, then four more short rings, until the Cambridge agent answers. When he does, the ringing will cease, at which time the Salem agent picks up his phone and begins talking. If the Cambridge agent does not answer within a reasonable length of time, the Salem agent momentarily lifts his handset and replaces it. This stops the ringing and releases the line. This method of handling calls between stations on the same party line is known as code ringing with a reverting call arrangement.

Circuits between the 10 D&H dial exchanges are for the most part leased from the Long Lines Department of the American Telephone & Telegraph Co. and the New York Telephone Co. The D&H, however, has its own trunk between Binghamton and Oneonta, another between Wilkes-Barre and Carbondale, and three trunk circuits between Mechanicville and Albany.

For handling city calls into the D&H general offices in Albany, an existing two-position dial switchboard was replaced with new switchboard equipment. Indication lamps on the switchboard are lighted when a trunk circuit is in use. Counters register when all trunks between two exchanges are busy.

Twelve telephone companies, in addition to the AT&T, cooperated with the Delaware & Hudson to provide this fully automatic dial telephone system. The dial PBX's are leased from New York Telephone. Telephones are leased from the local companies in the areas in which they operate. Besides AT&T and New York Telephone, the cooperating companies are Ausable Valley Telephone Co., Bell Telephone Co. of Pennsylvania, Champlain Telephone Co., Chazy Telephone Co., Chenango & Unadilla Telephone Co., Deposit Telephone Co., General Telephone Co. of Upstate New York, Middleburgh Telephone Co., New England Telephone & Telegraph Co., Northeastern Pennsylvania Telephone Co., and Westport, Essex & Lewis Telephone Co.

The planning and railroad work involved, such as transposing open wire circuits and running in leads, was directed and carried out by railroad signal and communications department men under the direction of V. G. O'Connor, general electrical inspector. The installation is under the jurisdiction of C. H. Tobin, superintendent of signals and communications.

13,000,000

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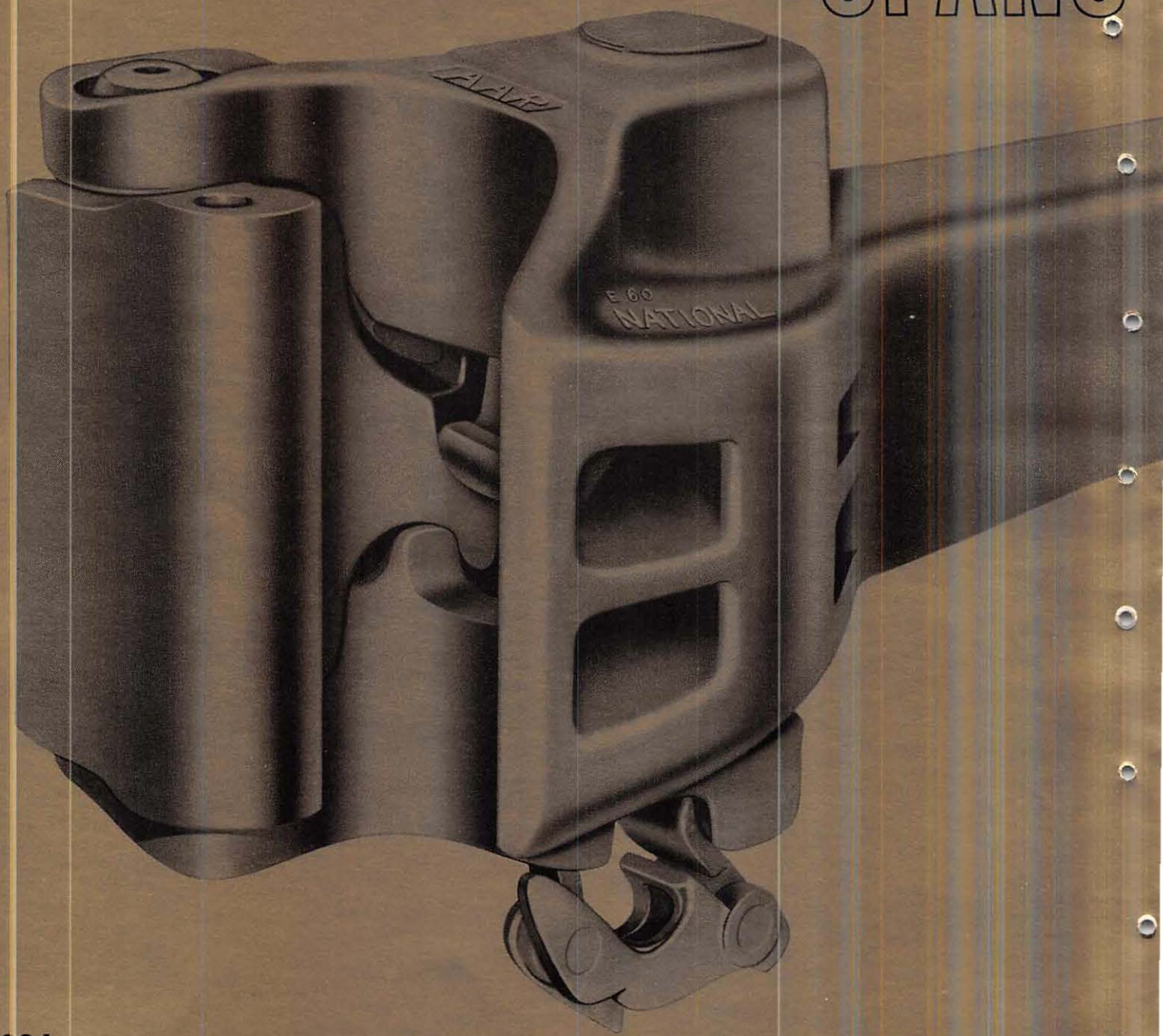

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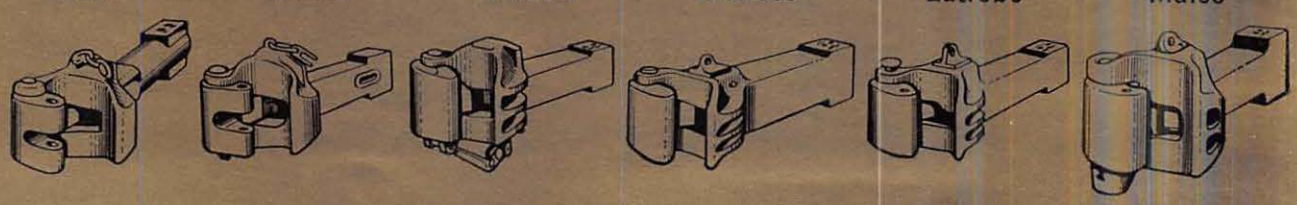

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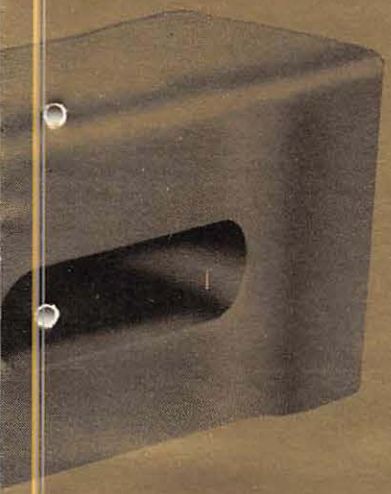

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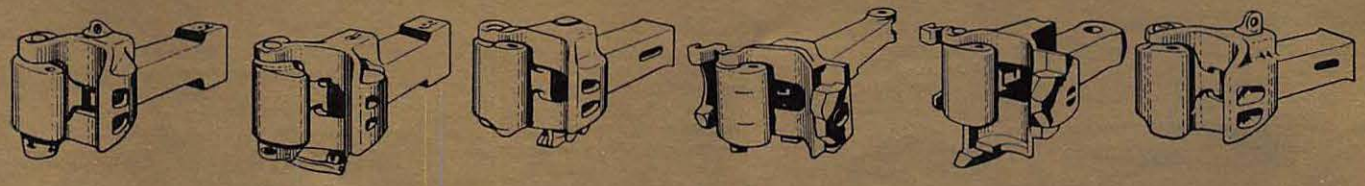

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Lock No. E40

Knuckle Pivot Pin No. C10

Top Lock Lifter Hole Cap No. E2 Malleable Iron

Top Lock Lifter Hole Cap No. E2-A Pressed Steel

Top Lock Lifter Assembly No. E6-A

Articulated Rotary Locklift Assembly— Single No. E24A

Articulated Rotary Locklift Assembly— Double No. E25A

Note: When ordering Lock Lifters for either top or bottom operated couplers, the complete assembly of lifter parts should be specified.

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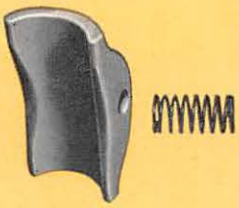
Knuckle Pivot Pin No. C10

Lock, No. F41


Pin Bearing Block, No. F65 and Pin Bearing Block Retaining Spring, No. F66

Knuckle Thrower No. F31

Rotary Locklift Assembly No. F7

Rotor, Single No. F8

Rotary Locklift Assembly, F7 and Single Rotor, F8 Assembled

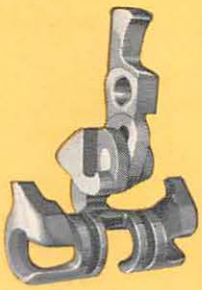
AAR Standard Type H Tightlock Coupler Parts

Knuckle No. H50-B

Lock No. H40-A

Knuckle Pivot Pin No. C10

Support Pin No. C2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Germany Likes Concrete Ties

By Dr. GERHARD SCHRAMM
Track Advisor
German Federal Railroad

Concrete ties have been a technical possibility ever since the introduction of steel concrete at the end of the past century.

The numerous experiments with concrete ties that took place early in this century, though, were generally unsatisfactory, both in technical and economic respects. In spite of the reinforcement, the concrete could not as a rule stand the heavy dynamic stress of railroad traffic. Ties that were suitable in load-bearing respects could not compete with the low cost of timber and steel ties at the time.

In Germany, the situation underwent a fundamental change during World War II. First, the development of prestressed concrete opened up new technical opportunities. Secondly, the shortage of timber and steel forced the German railroads to look for substitute materials. For the time being, it was not necessary to take the factor of economics into account.

By 1943, studies indicated that several types of weakly reinforced ties were feasible, and 20,000 of these were put in service along with 3,000 steel-string concrete ties reinforced with highly prestressed steel wire. These ties have given excellent service, even under the greatest stress.

After the war ended, timber and steel continued in short supply, and development of the concrete ties continued. By the time the shortage of timber and steel eased, the economics of building materials had changed in favor of concrete. Post-war cost statistics showed that the concrete tie could now successfully compete with the timber and steel ties in economic respects. In addition, the further development of prestressed concrete opened up new technical vistas. (The steel-string concrete ties, though technically satisfactory, were costly to produce and were dropped.)

About two years ago, the following requirements were formulated for planned production of between one and two million ties per year:

- Concrete ties must be suitable for heaviest operational stress (German Federal Railroads limit new materials to heavy traffic lines, use old material for lighter traffic areas).
- Ties must be produced by private enterprise (the federalized German railroads make it a policy to encourage private production of new industrial items).
- Tie production must be decentralized over the entire GFR territory. All ties are laid by fully mechanized means, so far as possible, and this requires smooth delivery of ties from plant stocks to installation space.
- Tie plants should be modest in size, since no funds would be available for the installation of costly plants.
- Ties must be inexpensive, so that economically, they are at least equal in service life to other types of ties.

Ten different types of ties have been tested in large numbers over the past ten years as part of the concrete tie program. All of these prestressed ties have given satisfactory service.

The reinforcement used consisted of two to eight fillers of high-grade steels. At first, ties were produced both with and without compound effect. For the compound effect, the steel fillers were stressed in the form. Using this method, the form can be removed only after the concrete has become so solid that it takes up the prestress, and enough forms are required to last for the entire hardening process of the concrete.

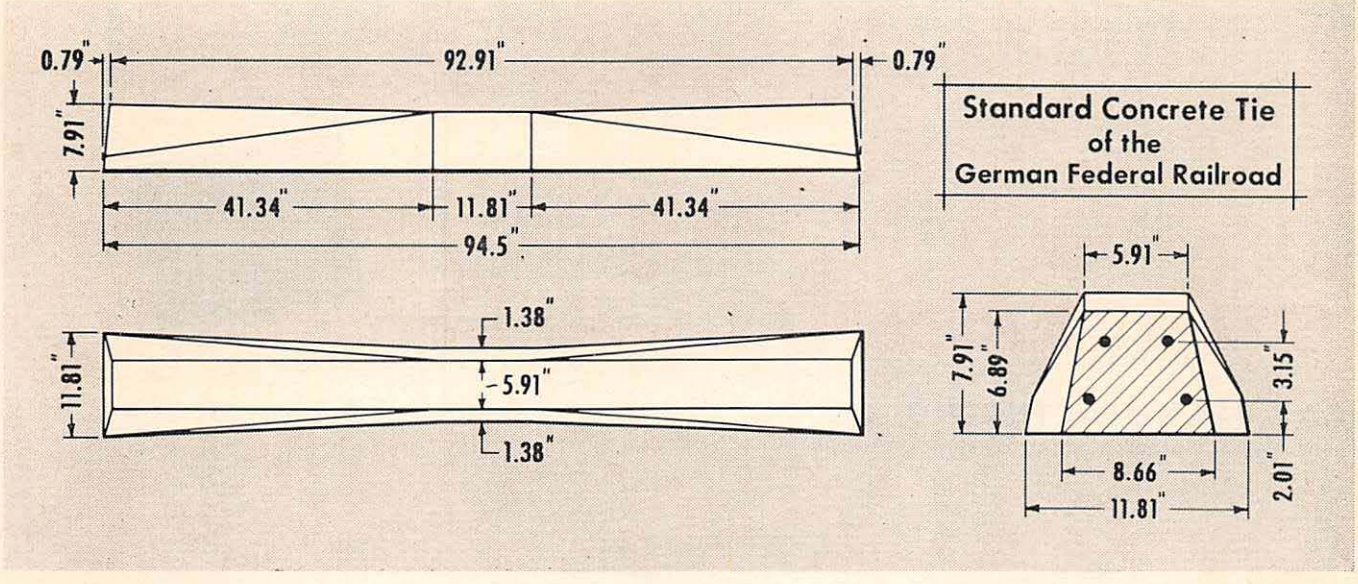
With the non-compound method, round steel fillers were surrounded by bitumen and were stressed after the concrete had hardened. With this method, relatively few forms were required. However, in service the non-compound type proved more sensitive to unusual overload than the compound type. If, for instance, the concrete in the center part of the tie is knocked out by a derailment, the prestress is lost for the entire length of the tie. For this reason, GFR discontinued using the non-compound type.

At present, all production is in a single design of tie, produced in two lengths: B 55, which is 90.5 inches long, and B 58, which is 94.5 inches. The shape of the ties is the same in each case. The illustration shows the dimensions of the B 55 design.

A cubic strength of 8,520 psi is stipulated for the concrete. Ties are produced by the vibration process. Reinforcement is measured for two loading cases:

(1) vertical pressure on both rails of 15 tons each, without component forces; and (2) vertical pressure on one

(*Continued on page 46*)



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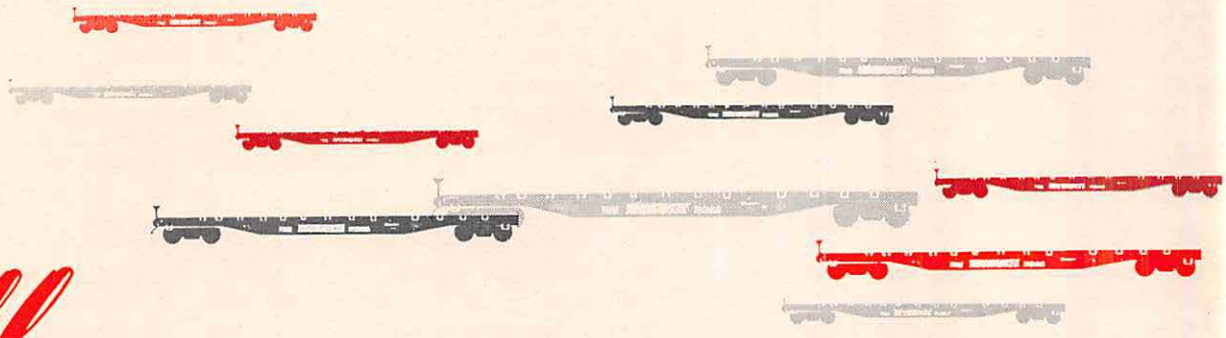

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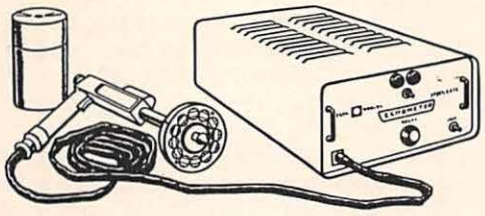

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rail of 13 tons, in connection with a horizontal, outward-directed component at the rail head of 7 tons. These are about twice as much as rail pressures that actually occur.

Reinforcements are of several types, with two to four fillers made of special steel with a tensile strength of between 128,000 psi to 242,000 psi. Some plants stress the steel fillers in the forms. Others remove the forms immediately and insert and stress the steel fillers after the concrete has hardened. To get the compound effect with this method, a suitable binding agent is injected. Before delivery, ties are subject to strict inspection for accuracy of gage and bearing strength.

The problem of rail fastening was solved satisfactorily with concreted, tar-oil-impregnated hard wood dowels. Dowels installed in concrete ties 15 years ago are still in very good condition. If required, they can easily be replaced by new two-part dowels. Experiments are presently being conducted with peg fastenings of hard rubber. These have the advantage of permitting use of the same light-section screws and nails used with timber ties.

Concrete ties are sufficiently non-conducting to meet technical requirements of signal installations for indicating clear tracks, etc.

At the present time, the German Federal Railroads purchase between 1,600,000 and 2,000,000 concrete ties annually. These are produced by seven companies in 11 plants, which have a two-shift capacity of approximately 2,500,000 ties a year. With the 11 tie plants located at selected sites along the route, the average transportation distance from production to installation is only 75 miles. Altogether, some 12,000,000 concrete ties are presently installed. This accounts for some 4,650 miles of track, or about 25% of the first class trackage.

In deciding which routes are to receive concrete ties, the GFR has had to take the German forest economy into consideration. As a matter of policy, timber ties must be used to a certain extent. In practice, timber ties are usually specified for locations where traffic conditions will not permit mechanized tracklaying.

The years of in-service testing have demonstrated two things: First, that it is incorrect to assume that in regard to traveling on the tracks concrete ties are "harder" than the "elastic" timber ties (extensive tests show that the traveling difference between concrete and timber ties cannot be measured). Secondly, that heavy concrete ties offer maximum safety against rail deformations through thermal stress. This second property has led to extensive use of welded rails on concrete ties.

On the German Federal Railroads, the criterion for selecting a particular type of tie is the long-term cost, including maintenance, rather than the original cost. The tie which permits the lowest annual cost is the most economical. After several decades of experience with timber and steel ties, GFR can calculate the exact annual cost of these types. This is not possible for concrete ties as yet because their longevity is not known exactly.

When all technical, economic and trade factors are taken into account, the German Federal Railroads plan for 50% or 60% of tie renewals to be concrete and the remainder wood. However, if concrete ties continue to meet expectations for long life, they will probably have even greater use in the future.

Railroading After Hours with Jim Lyne

ENGINEERS AS OFFICERS—There is a perennial question in most industries as to the kind of professional training they favor for executive positions—engineering, law, business administration or what have you. Lackawanna's operating V-P, W. G. White, did some expounding on the subject not long ago at his alma mater, George Washington University, and has favored me with a printed copy of his lecture. The title is "The Role of Engineers as Administrators." He includes "human relations" as a big part of the administrator's job; and believes the engineer can do well in this area, because his training has fostered the "inquiring mind."

Not having even a smidgeon of engineering education myself, I nevertheless admire the kind of executives the engineering schools have supplied to the railroads. I don't ascribe their success, though, so much to their inquisitiveness (plenty of people are nosy)—as to the hard-boiled concreteness of engineering. You don't get away with vague "yes-and-no" answers to engineering problems.

$150 BILLION HANDOUT—The AAR has compiled a statement, from official sources, showing federal and state government expenditures on transportation, which will reach a cumulative total of over $149 billion during the current year. What's scary about the figures isn't just their present magnitude, but that they get bigger every year.

In 1955, Uncle Sam got rid of about $1 billion for aid to (non-railroad) transportation. This year his generosity in transportation will run somewhere between $3½ and $4 billion. All forms of transportation, except railroads and pipelines, are getting their hands deeper and deeper into the pockets of national and local treasuries.

These figures make pretty irritating reading for me, right at the time of paying the quarterly income tax bite—both federal and state. I hope the figures will be widely distributed, and irritate a lot of other people too.

SOME RR CORN—The weather being hot and standards of humor being pardonably low (I hope)—here is one that came to me from the meeting of public relations officers at Sun Valley: Somebody hoped I'd incur Charley Pope's displeasure and that he would "Soo Line."

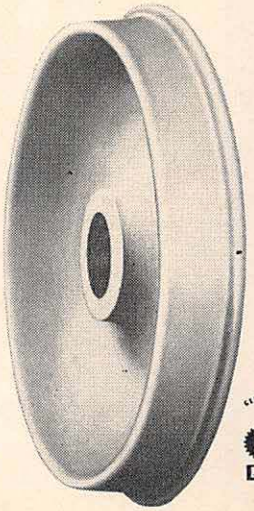
Going much higher up the ladder to attain the threshold of acceptability, I've just been reading a speech by my former colleague Bill Schmidt (now PR director of the B&O) made at the accounting officers' recent meeting in Cincinnati. He defined his function as that of a diplomat—his job being to tell people to go to hell, and to make them look forward to it with anticipation.

Bill's speech had to do with the scarcity of capital funds for private investment in transportation—which is the transportation problem that summarizes and embraces all the other problems.

We just don't make 'em like we used to!

In fact, the only resemblance between this picture and Griffin's current production is that we have a smile on our faces. That's because we're happy with the appearance and performance of the Griffin EQS.

If failing circular arches on *your* cars are causing financial pain, remember that the Griffin EQS is *round* and *tough* . . . and has a great reputation for *staying* round and tough.



GRIFFIN EQS

ELECTRIC QUALITY STEEL

GRIFFIN WHEEL COMPANY, 445 N. Sacramento Blvd., Chicago 12, Illinois

In Canada: Griffin Steel Foundries, Ltd., St. Hyacinthe, Quebec

Give the "green" to ***GRIFFIN*** *and watch your costs go down!*

CLEARED TO PROCEED P R I MEMBER

REVENUES AND EXPENSES OF RAILWAYS

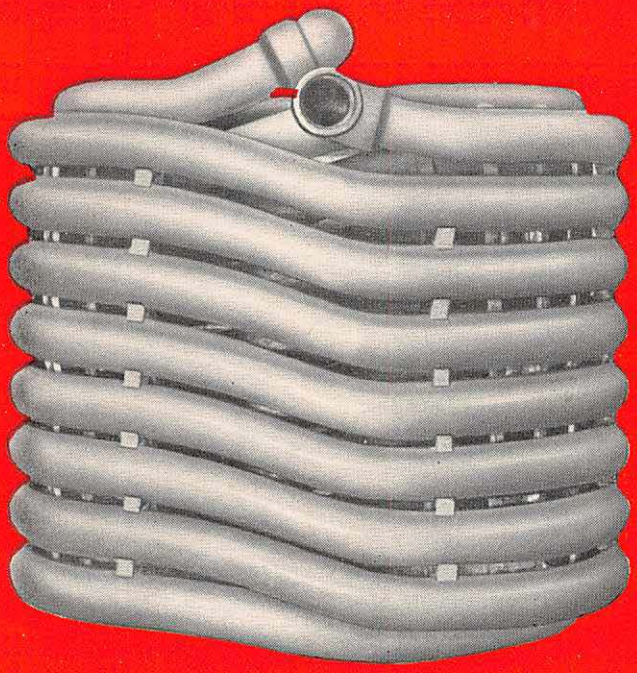
(Dollar figures are stated in thousands; i.e., with last three digits omitted)

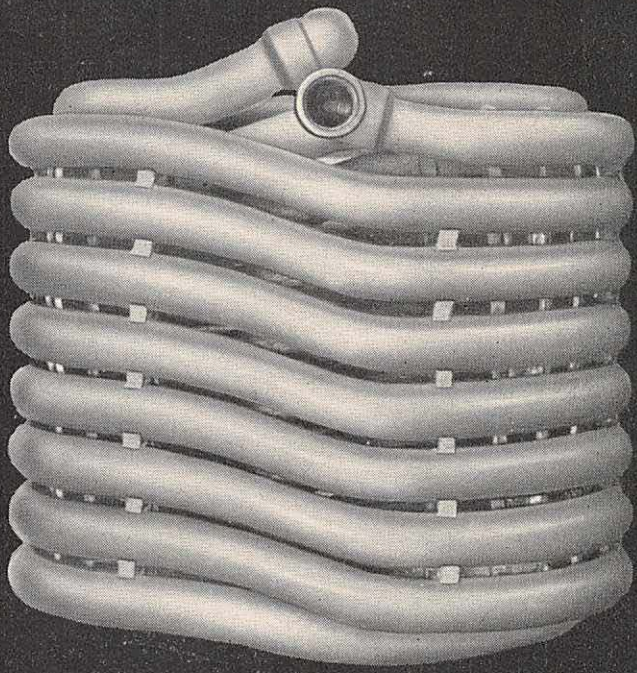
MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1959

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1959	1958	Operating Expenses: Maint. Way and Structures: Total 1959	1958	Deprec. and Retirements	Maint. Equipment: Total 1959	1958	Deprec. and Retirements	Traffic	Transportation	Total 1959	1958	Operating ratio 1959	1958	Net from railway operation	Railway tax accruals	Net Railway operating income 1959	1958
Akron, Canton & Youngstown	April	171	564	....	580	398	56	50	6	79	60	15	45	157	383	320	65.9	80.4	198	106	71	16
	4 mos.	171	1,999	....	2,045	1,549	237	215	22	282	252	59	175	608	1,479	1,390	72.3	89.7	566	316	188	—15
Alabama, Tenn. & Northern	April	214	329	....	331	218	50	50	8	8	13	6	4	84	150	161	45.3	74.1	181	57	42	4
	4 mos.	214	1,210	....	1,256	1,017	199	198	27	39	131	22	17	325	595	746	47.3	73.3	662	204	158	—18
Atchison, Topeka & Santa Fe	April	13,084	48,362	2,501	55,696	47,232	6,791	5 235	705	10,941	8,783	2,334	1,391	18,291	39,683	33,699	71.3	71.3	16,013	9,013	6,363	5,798
	4 mos.	13,099	175,618	10,553	204,590	176.478	25,120	22,223	2,834	41,887	38,141	9,412	5,470	71.341	152,947	141,102	74.8	79.9	51,643	29,469	19,598	13,353
Atlanta & St. Andrews Bay	April	81	295	....	299	342	40	33	4	32	25	8	7	71	173	155	58.0	45.3	126	58	38	62
	4 mos.	81	1,213	....	1,232	1,427	164	135	14	127	120	31	28	292	701	646	56.9	45.3	531	241	167	275
Atlanta & West Point	April	93	253	19	331	292	46	37	8	52	53	14	19	134	273	270	82.5	92.4	58	17	16	—16
	4 mos.	93	952	88	1,253	1,196	169	144	31	202	209	57	72	530	1,062	1,074	84.8	89.8	191	70	19	—48
Western of Alabama	April	133	290	18	351	316	59	44	10	59	57	19	21	139	301	278	85.7	87.9	50	31	14	15
	4 mos.	133	1,147	82	1,391	1,353	193	186	37	234	235	76	81	552	1,150	1,150	82.6	85.0	241	157	74	73
Atlantic Coast Line	April	5,300	11,953	1,261	14,285	13,135	1,991	1,800	167	2,366	2,376	636	475	5,243	10,790	10,256	75.5	78.1	3,496	1,700	1,142	590
	4 mos.	5,305	44,563	6,183	55,138	52,149	7,195	7,108	702	9,631	9,427	2,548	1,897	21,200	42,994	42,009	78.0	80.6	12,144	6,125	3,692	2,417
Charleston & Western Carolina	April	343	560	....	572	600	135	105	8	87	81	29	21	180	440	394	76.9	65.7	132	85	39	56
	4 mos.	343	2,218	....	2,269	2,347	522	441	37	379	323	115	85	708	1,765	1,595	77.8	67.9	504	315	165	254
Baltimore & Ohio	April	5,917	32,183	1,221	35,819	30,611	3,651	3,004	481	6,334	5,044	1,127	1,031	14,424	27,727	24,530	77.4	80.1	8,092	1,884	4,289	2,391
	4 mos.	5,917	115,785	4,543	129,046	122,758	13,828	12,601	1,983	23,461	21,428	4,542	3,888	55,597	104,941	100,308	81.3	81.7	24,104	7,840	9,169	7,363
Staten Island Rap. Tran	April	29	205	85	299	296	60	53	12	42	37	2	2	156	295	275	98.5	92.9	4	48	—66	—45
	4 mos.	29	769	335	1,136	1,139	230	207	49	161	153	7	9	634	1,170	1,115	102.9	97.9	—34	189	—318	—263
Bangor & Aroostook	April	602	1,414	25	1,483	1,569	358	391	19	310	272	116	34	373	1,159	1,137	78.2	72.5	323	119	196	259
	4 mos.	602	5,742	98	6,013	6,842	1,521	1,684	75	1,178	1,162	466	125	1,658	4,823	5,043	80.2	73.7	1,190	461	833	1,176
Bessemer & Lake Erie	April	203	2,146	....	2,205	817	254	244	25	721	445	142	43	512	1,677	1,237	76.1	151.5	527	517	335	—372
	4 mos.	203	5,472	....	5,687	2,964	911	952	95	2,542	2,271	558	164	1,751	5,936	5,471	104.4	184.5	—248	1,051	537	—2,146
Boston & Maine	April	1,570	5,141	610	6,509	6,322	803	996	152	968	968	290	149	2,850	5,158	5,530	79.2	87.5	1,351	422	414	—165
	4 mos.	1,570	19,966	2,579	25,394	25,700	3,258	4,270	592	3,557	3,669	1,096	601	11,677	20,681	22,974	81.4	89.4	4,713	1,938	642	—1,495
C. P. R. in Maine	April	234	641	38	713	636	112	107	20	142	124	17	9	190	471	437	66.0	68.7	242	29	148	100
	4 mos.	234	3,712	183	3,996	3,503	481	509	81	575	547	70	34	917	2,106	2,114	52.7	60.4	1,890	133	1,372	870
Carolina & Northwestern	April	285	271	....	279	299	53	49	7	33	34	21	6	77	188	179	67.3	60.0	91	19	31	54
	4 mos.	285	1,109	....	1,133	1,083	195	190	27	128	116	84	22	299	720	711	63.5	65.6	413	86	128	157
Central of Georgia	April	1,745	3,490	120	3,841	3,513	584	585	44	688	654	188	176	1,446	3,094	3,029	80.6	86.2	747	249	518	272
	4 mos.	1,759	13,388	519	14,735	14,181	2,290	2,342	175	2,761	2,617	761	697	5,820	12,350	12,224	83.8	86.2	2,386	1,018	1,359	1,163
Central of New Jersey	April	597	3,720	471	4,488	4,336	500	608	95	764	780	106	76	2,142	3,711	3,783	82.7	87.2	777	453	91	—70
	4 mos.	597	13,995	1,915	17,164	17,354	1,967	2,179	380	3,262	3,122	645	299	8,665	15,113	15,130	88.1	87.2	2,050	1,828	—545	—379
Central Vermont	April	375	768	38	881	820	186	186	18	114	106	9	20	350	709	703	80.4	85.7	172	48	2	—95
	4 mos.	375	2,893	204	3,407	3,378	613	625	70	456	427	38	77	1,429	2,735	2,766	80.3	81.9	672	195	—16	—175
Chesapeake & Ohio	April	5,122	28,365	573	30,486	26,481	3,310	2,750	469	5,288	4,730	1,870	870	10,721	21,900	19,803	71.8	74.8	8,586	3,824	4,996	3,912
	4 mos.	5,122	108,226	1,912	115,482	109,623	12,410	12,520	1,975	20,430	20,240	7,487	3,439	42,783	85,701	85,019	74.2	77.6	29,781	13,371	18,436	14,937
Chicago & Eastern Illinois	April	862	2,918	125	3,304	2,980	397	406	32	545	470	165	146	1,230	2,484	2,327	75.2	78.1	820	204	427	197
	4 mos.	862	10,624	586	12,303	11,670	1,446	1,399	119	1,976	1,882	626	576	4,853	9,507	9,322	77.3	79.9	2,796	820	1,141	692
Chicago & Illinois Midland	April	121	715	....	731	501	44	46	7	102	102	23	32	147	364	356	49.8	71.1	366	212	130	49
	4 mos.	121	2,205	....	2,263	2,218	151	102	32	398	435	92	124	545	1,387	1,410	61.3	63.6	876	487	343	316
Chicago & North Western	April	9,287	15,558	1,346	18,450	16,425	3,038	2,671	350	3,229	2,921	997	517	7,968	15,952	14,726	86.5	89.7	2,498	1,271	542	—352
	4 mos.	9,287	57,692	5,946	69,719	65,848	10,726	9,741	1,586	12,496	11,536	3,959	2,131	31,311	61,379	58,502	88.0	88.8	8,340	5,015	—184	—1,045
Chicago, Burl. & Quincy	April	8,687	18,667	1,398	22,165	19,888	3,182	2,467	399	4,320	3,739	1,033	719	8,417	17,655	15,726	79.7	79.1	4,511	2,234	1,661	1,834
	4 mos.	8,687	73,377	5,762	87,331	79,124	10,567	9,596	1,598	17,527	15,214	4,122	2,632	34,278	69,018	63,623	79.0	80.4	18,313	9,389	6,743	5,923
Chicago Great Western	April	1,469	2,628	7	2,836	2,842	401	475	41	441	457	133	127	914	1,973	2,036	69.5	71.6	863	278	361	383
	4 mos.	1,469	10,374	28	11,173	11,428	1,544	1,749	172	1,692	1,692	530	504	3,729	7,778	7,935	69.6	69.4	3,395	1,207	1,288	1,389
Chic., Milw., St. P. & Pac	April	10,591	16,931	939	20,008	18,386	3,053	3,048	409	3,545	3,523	615	566	7,983	16,338	15,912	81.7	86.5	3,670	1,587	1,380	264
	4 mos.	10,591	65,795	4,080	77,518	73,724	11,202	11,039	1,653	14,218	14,574	2,769	2,179	32,392	64,844	64,268	83.7	87.2	12,674	6,261	3,135	286
Chicago, R. Is. & Pacific	April	7,536	16,304	1,089	19,043	16,473	2,426	1,908	296	3,243	2,750	621	561	7,330	14,535	12,695	76.3	77.1	4,509	1,931	1,053	984
	4 mos.	7,555	62,263	5,167	73,877	64,621	8,881	7,252	1,069	13,026	11,650	2,496	2,266	29,430	57,604	51,743	78.0	80.1	16,272	6,726	3,728	2,743
Clinchfield	April	293	1,834	....	1,845	1,706	205	217	22	343	316	107	67	443	1,129	1,057	61.2	62.0	715	203	639	533
	4 mos.	293	7,326	....	7,366	7,075	890	894	86	1,291	1,421	424	263	1,819	4,540	4,522	61.6	63.9	2,826	814	2,540	2,438
Colorado & Southern	April	716	1,196	50	1,392	1,137	284	149	69	267	182	69	37	544	1,211	907	87.0	79.8	181	113	33	93
	4 mos.	716	4,606	205	5,372	4,479	734	635	129	941	808	270	147	2,170	4,293	3,741	79.9	83.5	1,078	605	343	317
Ft. Worth & Denver	April	1,362	1,512	96	1,804	1,593	367	328	28	304	311	47	80	790	1,662	1,555	92.2	97.7	141	27	—33	—57
	4 mos.	1,362	6,599	453	7,955	6,705	1,387	1,122	119	1,142	1,094	181	325	3,341	6,711	5,915	84.4	88.2	1,244	309	47	27
Colorado & Wyoming	April	39	261	....	437	285	21	17	2	36	28	12	2	142	217	158	49.5	55.3	221	126	89	47
	4 mos.	39	938	....	1,535	939	82	62	9	167	115	50	7	532	850	616	55.4	65.5	685	406	268	100
Delaware & Hudson	April	764	3,650	107	3,906	3,583	412	469	58	723	662	189	109	1,425	2,961	2,956	75.8	82.5	945	377	556	133
	4 mos.	764	14,597	526	15,694	15,489	1,605	1,801	233	2,811	2,662	760	414	5,943	11,944	12,068	76.1	77.9	3,750	1,614	2,118	1,429
Delaware, Lack. & Western	April	918	4,754	719	6,204	6,106	580	686	183	1,133	1,052	350	201	3,096	5,389	5,646	86.9	92.5	815	647	77	—476
	4 mos.	918	18,110	3,023	23,969	24,834	2,353	3,026	632	4,395	4,218	1,395	780	12,734	21,796	23,448	90.9	94.4	2,173	2,589	—977	—2,298
Denver & Rio Grande Western	April	2,128	6,060	162	6,443	5,591	816	800	98	977	916	323	240	1,982	4,315	4,021	67.0	71.9	2,128	1,193	946	790
	4 mos.	2,135	23,053	779	24,665	22,559	2,621	2,410	384	3,836	3,568	1,274	955	7,976	16,611	15.503	67.4	68.7	8,054	4,341	3,818	3,482
Detroit & Toledo Shore Line	April	50	631	....	668	521	59	51	4	80	70	24	22	241	419	364	62.7	70.0	249	92	58	22
	4 mos.	50	2,762	....	2,958	2,455	262	265	16	360	295	96	86	989	1,767	1,608	59.7	65.5	1,191	434	263	153
Detroit, Toledo & Ironton	April	465	1,855	....	1,950	1,143	230	205	26	427	345	140	57	501	1,314	1,098	67.4	96.1	636	109	475	26
	4 mos.	465	7,757	....	8,187	5,611	1,099	879	118	1,585	1,460	561	228	2,105	5,409	4,749	66.1	84.6	2,778	433	2,080	602
Duluth, Miss. & Iron Range	April	557	2,440	....	2,827	357	531	456	70	586	543	186	12	937	2,337	1,840	82.6	515.1	491	254	209	—1,633
	4 mos.	557	3,341	3	3,917	1,352	1,944	2,016	284	2,419	2,645	745	50	2,871	8,245	8,150	210.5	602.6	—4,328	584	—4,992	—7,076
Duluth, So. Shore & Atl	April	544	565	2	601	472	122	115	10	110	99	26	34	186	479		79.7	96.8	122	39	56	—29
	4 mos.	544	1,950	10	2,066	1,[illegible]5	422	393	40	466	423	104	130	[illegible]3	1,867	1,879	90.4	97.1	198	133	11	[illegible]8

(Continued on page 50)

these two coils may "look alike," but service records prove they're not!





there's no substitute for...

VAPOR TURBO-TUBE

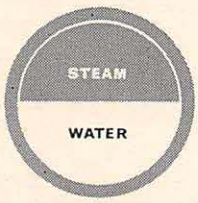
when you're buying STEAM GENERATOR PERFORMANCE

You always get better heat-transfer and longer service from Turbo-Tube coils made by Vapor.

FIRST, because Turbo-Tube tubing is *electric resistance welded* (not tube that's butt-welded or seamless). Thus, wall thickness and physical properties can be accurately controlled for uniformity...interior and exterior surfaces are extremely smooth... there are virtually no pits, cracks, or scabs at the seam where corrosion can get started...and *electric resistance welding* is unaffected by acid cleaning during washouts.

SECOND, because the inner circumference of Turbo-Tube is not plain but *spirally rifled* to swirl the flow of water and vapor into a same-temperature, uniform mixture. Water that otherwise would collect at bottom of tube is lifted to "wipe" the side walls for more effective heat absorption that reduces wall temperatures by as much as 400°F. This prevents harmful expansion-contraction that jeopardizes tube life.

When you buy Vapor Steam Generators, you know the hidden parts are designed and made to deliver outstanding performance, and that's true for Turbo-Tube, too. The higher efficiency and longer coil life cut costs, save time...stop waste!



In conventional smooth-bore tube, water and steam separate. Temperature at bottom of tube is much cooler than at top.

In Turbo-Tube, swirling action mixes steam and water—keeps water in constant contact with entire tube inner-circumference.

VAPOR TURBO TUBE

VAPOR HEATING CORPORATION

80 East Jackson Boulevard, Chicago 4, Illinois

Offices in Principal Cities

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e. with last three digits omitted)

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1959

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1959	1958	Operating Expenses: Maint. Way and Structures: Total 1959	1958	Deprec. and Retirements	Maint. Equipment: Total 1959	1958	Deprec. and Retirements	Traffic	Transportation	Total 1959	1958	Operating ratio 1959	1958	Net from railway operation	Railway tax accruals	Net Railway operating income 1959	1958
Duluth, Winnipeg & Pacific	April	175	446	....	450	439	111	94	5	56	62	1	7	173	356	338	79.0	77.0	94	38	—29	—24
	4 mos.	175	1,854	3	1,877	2,053	323	302	20	248	241	5	30	707	1,354	1,323	72.1	64.4	523	154	29	184
Elgin Joliet & Eastern	April	205	4,180	....	5,515	3,232	317	269	28	667	1,180	122	45	1,863	3,253	3,018	59.0	93.4	2,263	1,124	755	—121
	4 mos.	205	14,684	....	19,714	13,193	1,056	1,065	111	2,955	4,533	501	177	7,430	12,984	12,246	65.9	92.8	6,730	3,332	1,936	—613
Erie	April	2,201	11,961	486	13,561	11,758	1,350	1,276	228	2,161	1,862	541	366	6,223	10,863	10,066	80.1	85.6	2,698	1,112	893	—338
	4 mos.	2,201	45,606	2,104	15,841	48,400	5,157	5,275	911	8,388	7,708	2,168	1,480	24,937	43,074	41,857	83.1	86.5	8,768	4,488	1,387	—1,410
Florida East Coast	April	572	2,497	449	3,260	3,223	462	418	48	628	589	118	90	1,166	2,550	2,447	78.2	75.9	710	205	192	293
	4 mos.	572	9,893	2,192	13,364	13,114	1,887	1,700	190	2,565	2,312	470	357	4,951	10,554	9,943	79.0	75.8	2,810	832	838	1,274
Georgia Railroad	April	321	590	15	692	653	102	95	10	124	115	35	41	318	624	579	90.2	88.6	68	38	38	55
	4 mos.	321	2,277	55	2,673	2,512	400	344	35	496	443	139	162	1,242	2,454	2,260	91.8	90.0	219	149	112	179
Georgia & Florida	April	321	326	....	333	278	84	80	3	38	36	8	24	105	271	239	81.5	85.9	62	18	9	—1
	4 mos.	321	1,243	....	1,271	1,075	304	288	17	166	145	32	93	384	1,028	918	80.8	85.4	244	69	53	7
Grand Trunk Western	April	951	4,212	166	4,782	4,090	641	700	58	960	856	113	95	2,502	4,451	4,065	93.1	99.4	331	373	—676	—849
	4mos.	951	17,828	812	20,350	18,913	2,657	2,625	229	3,553	3,454	449	375	10,032	17,605	16,611	86.5	87.8	2,745	1,496	—1,097	—1,452
Great Northern	April	8,293	17,889	625	19,882	16,431	3,307	3,095	318	3,707	4,058	871	560	7,299	15,648	15,818	78.7	96.3	4,234	2,391	1,585	—1,323
	4 mos.	8,293	66,728	2,533	74,208	68,088	10,419	10,263	1,115	14,751	16,135	3,472	2,228	28,932	60,321	60,624	81.3	89.0	13,886	8,064	4,856	—185
Green Bay & Western	April	219	398	....	405	385	68	64	5	48	60	9	29	113	283	284	70.0	73.8	122	57	32	35
	4 mos.	219	1,508	....	1,544	1,593	211	232	18	186	216	35	113	480	1,098	1,130	71.1	70.9	446	226	111	145
Gulf, Mobile & Ohio	April	2,752	6,575	206	7,221	6,353	923	876	78	1,401	1,460	280	305	2,234	5,237	5,285	72.5	83.2	1,984	935	645	209
	4 mos.	2,752	24,528	911	27,329	26,228	3,609	3,854	304	5,436	5,772	1,187	1,218	9,120	20,894	21,495	76.5	82.0	6,436	2,788	1,855	1,106
Illinois Central	April	6,439	18,944	1,545	22,686	20,747	3,392	2,940	389	4,246	3,815	874	633	8,611	18,064	16,827	79.6	81.1	4,622	2,297	1,622	1,542
	4 mos.	6,439	72,758	7,022	88,371	84,616	13,130	11,748	1,625	17,111	16,562	3,471	2,526	35,028	72,501	69,709	82.0	82.4	15,871	7,756	5,101	5,148
Illinois Terminal	April	334	872	....	963	943	114	110	4	181	145	31	50	360	766	688	79.5	72.9	197	55	39	99
	4 mos.	334	3,084	....	3,434	3,595	387	418	12	732	550	123	198	1,422	2,966	2,810	86.4	78.2	467	92	—31	233
Kansas City Southern	April	891	3,300	57	3,739	3,478	314	274	49	516	446	106	106	1,164	2,233	2,024	59.7	58.2	1,507	609	612	602
	4 mos.	891	13,473	242	15,148	14,828	1,138	1,160	190	1,957	2,014	424	392	4,618	8,611	8,650	56.9	58.3	6,537	2,715	2,737	2,624
Kansas, Oklahoma & Gulf	April	327	451	....	453	449	66	66	9	30	29	12	39	90	253	249	56.0	55.5	199	86	69	68
	4 mos.	327	2,065	....	2,071	1,868	225	263	32	142	107	47	142	390	1,011	977	48.8	52.3	1,061	448	402	348
Lake Superior & Ishpeming	April	160	252	....	305	148	71	56	11	69	60	30	2	103	266	195	87.0	131.3	40	45	12	—76
	4 mos.	160	493	....	576	417	210	205	44	249	313	111	8	269	812	843	141.1	202.1	—237	165	—348	—537
Lehigh & Hudson River	April	96	272	....	272	257	31	32	2	31	35	8	17	114	210	206	77.1	80.1	62	24	1	—1
	4 mos.	96	1,073	....	1,074	1,072	122	133	10	123	158	33	68	435	815	861	75.9	80.3	259	100	22	—18
Lehigh & New England	April	177	565	....	571	626	69	66	7	162	137	48	20	214	513	488	89.8	77.9	58	37	176	178
	4 mos.	177	1,781	....	1,797	1,922	229	211	27	577	535	203	79	789	1,876	1,836	104.4	95.6	—79	120	266	291
Lehigh Valley	April	1,129	4,611	161	5,074	4,736	599	587	98	893	878	211	149	2,550	4,423	4,273	87.2	90.2	652	445	—56	—421
	4 mos.	1,129	16,802	760	18,854	18,483	2,370	2,897	388	3,623	3,308	848	564	10,083	17,591	17,963	93.3	97.2	1,264	1,773	—1,333	—2,484
Long Island	April	344	1,141	4,391	5,750	5,718	838	762	103	1,123	1,118	169	42	2,887	5,090	4,948	88.5	86.5	659	359	82	179
	4 mos.	344	4,036	17,135	21,937	21,467	3,129	3,388	397	4,306	4,563	674	162	11,622	20,023	20,269	91.3	94.4	1,913	1,442	—312	—1,028
Louisiana & Arkansas	April	746	1,991	37	2,119	2,010	207	221	20	312	314	99	80	675	1,349	1,359	63.7	67.6	770	409	271	191
	4 mos.	746	7,735	158	8,304	8,265	717	790	79	1,136	1,210	393	309	2,627	5,103	5,320	61.5	64.4	3,200	1,653	1,159	1,066
Louisville & Nashville	April	5,697	17,530	646	19,705	17,706	2,711	2,542	305	4,078	3,709	1,091	500	7,308	15,534	14,891	78.8	84.1	4,172	2,879	1,750	1,110
	4 mos.	5,697	68,408	2,584	76,924	73,182	10,498	11,049	1,213	16,427	16,202	4,430	1,967	29,952	62,514	63,667	81.3	87.0	14,409	10,135	5,805	4,861
Maine Central	April	944	2,104	44	2,264	2,280	378	374	27	398	416	84	37	788	1,729	1,764	76.4	77.4	535	256	210	175
	4 mos.	944	8,042	229	8,744	9,254	1,483	1,524	110	1,537	1,609	336	121	3,382	7,023	7,155	80.3	77.3	1,721	807	606	723
Minneapolis & St. Louis	April	1,391	1,803	....	1,862	1,846	269	281	31	352	276	98	117	657	1,555	1,430	83.5	77.5	306	138	147	153
	4 mos.	1,391	6,822	3	7,067	7,125	1,009	1,047	128	1,246	1,172	402	479	2,646	5,991	5,695	84.8	79.9	1,076	660	420	461
Minn. Northfield & Southern	April	77	364	....	385	370	28	23	2	44	38	13	34	99	240	209	62.2	56.5	146	79	50	58
	4 mos.	77	1,469	....	1,535	1,457	81	79	10	166	167	51	124	395	899	837	58.6	57.5	636	352	240	245
Minn., St. P. & S. S. Marie	April	3,222	2,940	32	3,154	3,115	668	689	49	762	668	141	107	1,367	3,114	2,945	98.7	94.5	40	210	—180	—166
	4 mos.	3,222	11,825	136	12,656	12,911	2,275	2,420	203	2,827	2,941	563	434	5,618	11,963	12,067	94.5	93.5	693	971	—489	—372
Missouri-Illinois	April	172	492	....	494	391	42	58	5	88	96	35	14	121	278	289	56.3	73.7	216	139	111	65
	4 mos.	172	1,671	....	1,690	1,558	177	225	21	358	356	149	55	463	1,106	1,106	65.4	71.0	584	454	322	288
M.-K.-T. Lines	April	2,918	4,917	58	5,338	4,773	619	563	81	1,232	742	260	187	1,758	4,024	3,587	75.4	75.1	1,314	337	414	354
	4 mos.	2,918	17,960	257	19,893	19,517	2,205	2,153	353	4,072	3,597	1,042	748	6,845	14,748	14,981	74.1	76.8	5,144	1,348	1,502	1,314
Missouri Pacific	April	9,513	22,801	737	26,044	24,432	3,675	3,903	350	4,340	4,151	1,086	718	9,626	19,336	18,672	74.2	76.4	6,708	2,333	3,075	2,924
	4 mos.	9,513	86,169	3,191	98,835	94,215	12,793	13,508	1,274	17,230	16,707	4,333	2,728	38,194	74,894	73,075	75.8	77.6	23,942	8,051	11,096	10,596
Monon	April	541	1,589	24	1,750	1,633	246	206	20	320	265	76	104	695	1,473	1,334	84.2	81.7	277	99	111	106
	4 m.s.	541	5,985	179	6,681	6,665	857	833	80	1,223	1,147	305	414	2,849	5,753	5,510	86.1	82.7	929	307	326	348
Monongahela	April	177	576	....	578	377	70	67	13	51	59	11	1	145	291	290	50.4	77.0	287	17	208	—54
	4 mos.	177	1,658	....	1,667	1,522	254	267	50	223	236	44	4	794	1,366	1,205	81.9	79.2	301	67	7	—27
New York Central	April	10,439	46,503	4,910	60,149	51,384	6,285	5,274	1,090	10,700	9,500	2,466	1,099	27,453	48,619	45,166	80.8	87.9	11,530	5,266	4,802	—1,019
	4 mos.	10,445	176,981	22,927	232,790	205,478	24,862	24,812	4,323	42,800	38,000	9,310	4,311	111,376	196,070	186,977	84.2	91.0	36,720	21,958	8,507	—12,179
Pitts. & Lake Erie	April	221	3,304	32	3,573	2,397	390	425	57	894	898	320	68	1,246	2,820	2,633	78.9	109.8	754	754	1,018	354
	4 mos.	221	11,491	142	12,394	9,466	1,417	1,635	223	3,707	3,741	1,276	264	4,685	10,924	10,900	88.1	115.1	1,470	2,333	3,501	1,708
New York, Chic. & St. L.	April	2,170	13,174	107	13,767	10,782	1,428	1,253	163	2,248	1,898	493	385	4,813	9,360	8,305	68.0	77.0	4,407	2,141	1,786	914
	4 mos.	2,175	48,770	537	51,019	44,662	5,322	5,445	643	8,185	8,000	1,890	1,463	19,115	36,026	35,006	70.6	78.4	14,993	7,335	6,110	3,542
New York, N. H. & Hart	April	1,762	7,389	3,861	13,063	21,493	1,576	1,460	280	1,878	1,956	475	234	5,922	10,606	10,429	81.2	83.5	2,457	935	70	—292
	4 mos.	1,762	26,366	15,785	49,002	47,943	5,386	5,969	1,116	7,365	7,837	1,854	896	23,996	41,462	42,451	84.6	88.5	7,540	3,765	—1,856	—3,238
New York Connecting	April	21	325	....	355	344	53	100	25	4	19	....	....	96	157	206	44.4	60.1	197	94	50	21
	4 mos.	21	1,289	....	1,391	1,487	228	392	101	46	75	....	....	355	644	825	46.3	55.5	747	360	305	250
New York, Sus. & Western	April	106	319	20	354	401	42	29	6	56	57	11	9	176	313	2[illegible]	88.3	74.4	42	31	—27	27
	4 mos.	106	1,248	76	1,380	1,456	160	152	23	223	235	43	35	[illegible]0	1,230	1,266	89.1	86.9	150	123	—114	[illegible]5

(Continued on page 52)

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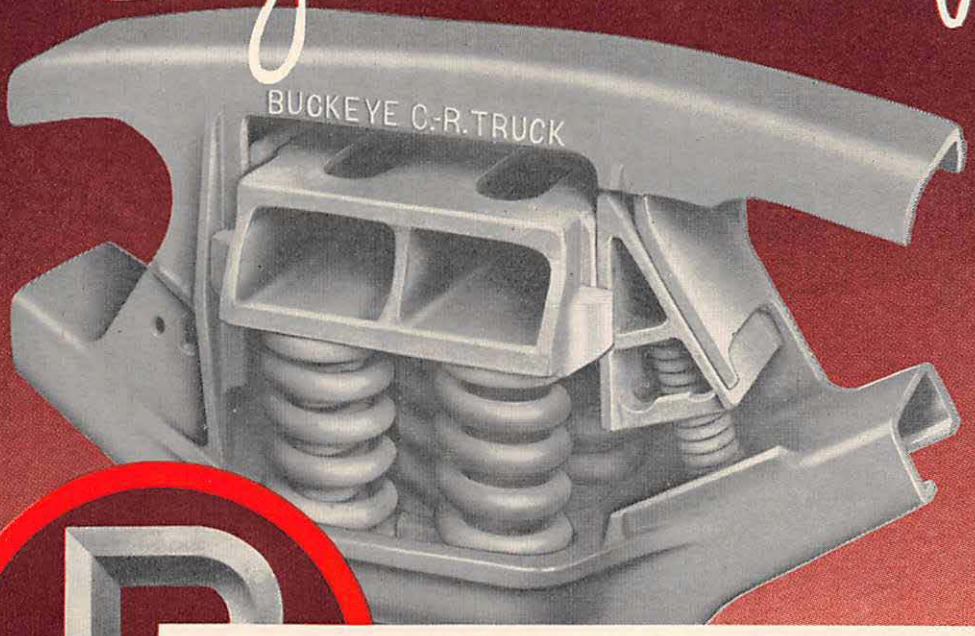

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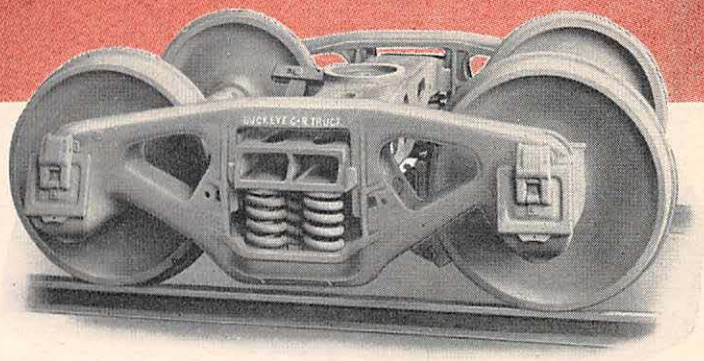

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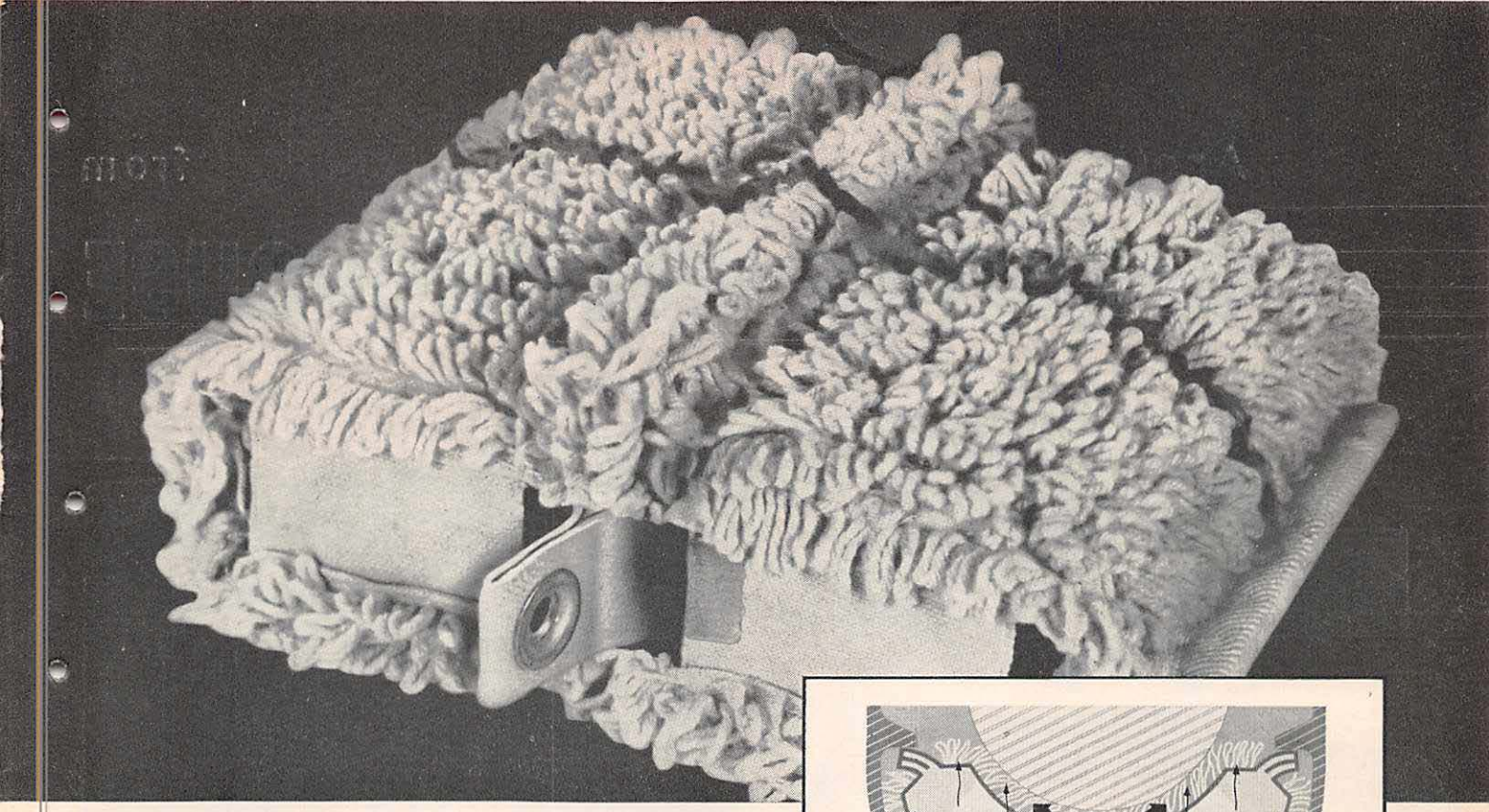
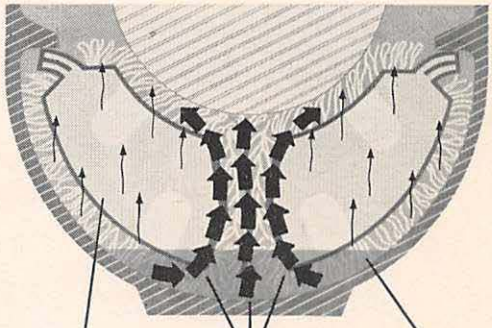
REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF APRIL AND FOUR MONTHS OF CALENDAR YEAR 1959

Name of Road		Average mileage operated during period	Operating Revenues				Operating Expenses									Operating ratio		Net from railway operation	Railway tax accruals	Net Railway operating income	
					Total (inc. misc.)		Maint. Way and Structures			Maint. Equipment											
			Freight	Pass.	1959	1958	Total 1959	Total 1958	Deprec. and Retire-ments	Total 1959	Total 1958	Deprec. and Retire-ments	Traffic	Trans-portation	Total 1959	Total 1958	1959	1958			1959	1958
Norfolk & Western	April	2,138	17,188	178	18,214	15,517	2,071	2,072	352	3,126	3,684	1,123	379	4,774	11,169	11,784	61.3	75.9	7,044	3,928	4,275	2,160
	4 mos.	2,138	64,998	762	69,142	64,438	7,425	9,244	1,422	11,953	15,211	4,322	1,376	19,467	43,460	50,505	62.9	78.4	25,682	14,478	15,814	8,211
Norfolk Southern	April	592	807	....	821	778	198	188	9	135	136	32	51	273	719	680	87.6	87.5	101	46	20	16
	4 mos.	592	3,056	....	3,110	2,867	741	680	42	502	497	128	207	1,056	2,752	2,568	88.5	89.6	357	202	41	—5
Northern Pacific	April	6,828	13,395	325	14,828	12,986	2,552	1,754	395	2,816	2,463	759	435	5,898	12,646	10,975	85.3	84.5	2,182	1,317	991	695
	4 mos.	6,828	50,284	1,486	55,807	51,671	7,921	6,841	1,316	11,226	11,521	3,009	1,650	23,498	48,006	46,064	86.0	89.1	7,802	5,609	3,072	1,441
Northwestern Pacific	April	328	1,225	1	1,239	967	219	336	17	84	75	2	7	333	668	770	54.0	79.6	570	227	138	—20
	4 mos.	328	4,480	1	4,521	3,305	887	1,187	86	331	316	10	31	1,304	2,651	2,851	58.6	86.3	1,869	707	419	—188
Pacific Electric	April	356	1,051	....	1,230	1,071	166	159	22	66	53	4	22	584	934	843	76.0	78.7	296	109	31	—4
	4 mos.	356	4,048	....	4,684	4,084	741	685	94	222	247	14	80	2,111	3,559	3,470	76.0	85.0	1,125	488	86	—275
Pennsylvania	April	9,920	62,521	8,529	79,982	65,920	7,857	7,800	1,444	15,473	14,308	2,998	1,216	34,810	63,350	60,458	79.2	91.7	16,632	5,598	6,249	—2,560
	4 mos.	9,920	226,735	35,654	296,520	264,400	29,557	30,666	5,841	60,790	55,265	11,969	4,916	137,279	249,444	241,959	84.1	91.5	47,076	21,288	6,711	—10,960
Penn.-Reading S.S. Lines	April	353	595	65	675	684	196	215	27	126	142	26	9	483	870	881	128.7	128.8	—194	69	—410	—417
	4 mos.	353	2,138	244	2,445	2,500	748	792	110	523	503	103	34	1,901	3,414	3,424	139.6	136.9	—969	273	—1,803	—1,779
Piedmont & Northern	April	126	441	....	449	394	38	46	5	36	28	10	31	89	227	215	50.6	54.4	222	115	62	51
	4 mos.	126	1,937	....	1,977	1,731	163	176	18	135	114	38	124	357	916	873	46.3	50.4	1,061	542	322	244
Pittsburgh & West Virginia	April	132	942	....	947	631	148	133	25	169	143	45	81	248	705	611	74.5	96.8	241	117	129	9
	4 mos.	132	2,986	....	3,023	2,903	572	504	99	642	598	182	313	932	2,704	2,506	89.4	86.3	319	158	246	266
Reading	April	1,303	8,400	496	9,522	8,687	1,153	1,082	198	1,838	1,551	486	208	3,967	7,635	7,441	80.2	85.7	1,887	682	853	555
	4 mos.	1,303	31,705	2,054	36,189	36,729	4,238	5,457	786	7,100	6,956	1,876	779	16,339	30,306	32,351	83.7	88.1	5,883	1,816	2,636	2,174
Richmond, Fred. & Potomac	April	118	1,271	414	2,034	1,935	140	184	26	294	299	69	34	717	1,377	1,359	67.7	70.2	658	362	169	152
	4 mos.	118	5,108	1,775	8,260	7,881	624	744	106	1,181	1,193	270	126	2,989	5,628	5,700	68.1	72.3	2,632	1,485	732	565
Rutland	Apri.	391	375	....	405	382	67	53	15	59	72	18	34	152	340	336	84.1	88.0	64	28	30	15
	4 mos.	391	1,472	....	1,578	1,499	300	287	39	243	247	71	124	640	1,413	1,406	89.5	93.8	165	112	25	—44
St. Louis-San Francisco	April	4,576	9,614	182	10,525	9,118	1,602	1,347	156	1,856	1,622	609	386	3,944	8,381	7,613	79.6	83.5	2,144	800	1,167	721
	4 mos.	4,577	35,462	824	39,059	34,924	6,304	4,499	765	6,762	6,376	2,434	1,433	15,160	31,986	29,862	81.9	85.5	7,073	2,754	3,729	2,599
St. Louis-S. F. & Texas	April	143	440	2	465	408	25	59	5	26	24	1	23	161	247	269	53.1	66.0	218	90	67	27
	4 mos.	143	1,729	11	1,832	1,438	97	186	16	111	109	4	94	605	954	1,055	52.1	73.4	879	347	274	55
St. Louis Southwest. Lines	April	1,556	5,565	4	5,642	4,798	600	662	79	650	656	192	196	1,805	3,447	3,283	61.1	68.4	2,195	973	917	722
	4 mos.	1,556	21,229	19	21,559	19,632	2,370	2,741	292	2,618	2,760	752	760	7,222	13,691	13,505	63.5	68.8	7,867	3,473	3,324	2,745
Savannah & Atlanta	April	144	351	....	367	331	58	67	2	70	61	19	19	114	274	256	74.6	77.2	93	42	43	51
	4 mos.	144	1,240	....	1,302	1,228	218	229	7	254	233	77	69	432	1,022	976	78.5	79.5	279	113	148	166
Seaboard Air Line	April	4,148	11,909	1,114	14,134	13,035	1,804	1,819	213	2,543	2,639	695	458	4,958	10,480	10,307	74.1	79.1	3,654	1,672	1,712	1,520
	4 mos.	4,147	46,587	4,541	55,535	52,536	6,922	7,102	834	10,097	10,366	2,813	1,823	19,513	41,220	41,169	74.2	78.4	14,316	6,566	6,831	6,170
Southern Railway	April	6,269	20,847	701	23,314	20,607	3,013	2,842	335	3,821	3,426	930	491	7,087	15,655	14,832	67.1	72.0	7,659	3,540	3,418	2,999
	4 mos.	6,269	79,501	3,232	89,501	83,846	13,051	11,567	1,255	15,308	14,198	3,795	1,927	28,494	63,454	60,610	70.9	72.3	26,047	11,229	11,960	12,146
Alabama Great Southern	April	328	1,436	36	1,612	1,666	284	236	35	321	271	82	40	483	1,236	1,116	76.7	67.0	375	87	232	458
	4 mos.	328	4,982	151	5,700	5,315	1,065	966	138	1,276	1,169	328	161	1,965	4,872	4,655	85.5	87.6	828	375	186	209
Cinn., N. O. & Tex. Pac	April	337	3,516	55	3,777	2,907	612	594	69	705	643	222	81	870	2,468	2,368	65.3	81.4	1,309	636	820	406
	4 mos.	337	12,610	280	13,702	12,450	2,391	2,337	288	2,955	2,537	888	323	3,550	9,967	9,463	72.7	76.0	3,735	1,641	2,510	2,189
Georgia Southern & Florida	April	397	736	25	850	858	152	161	11	78	73	11	23	280	596	589	70.1	68.6	254	64	45	77
	4 mos.	397	2,995	123	3,447	3,057	578	623	43	324	309	42	90	1,058	2,285	2,346	66.3	76.7	1,162	195	281	—120
New Orleans & Northeastern	April	203	945	23	1,046	1,111	217	256	22	197	164	83	28	261	784	754	74.9	67.9	262	149	170	157
	4 mos.	203	3,315	109	3,718	3,775	859	703	88	808	626	332	106	1,045	3,113	2,681	83.7	71.0	605	403	316	402
Southern Pacific	April	8,068	42,833	1,842	47,136	38,962	5,299	4,990	432	10,104	8,993	2,452	839	16,906	35,240	32,280	74.8	82.9	11,896	6,065	5,260	3,276
	4 mos.	8,070	158,165	7,923	175,683	154,434	20,322	19,769	1,934	37,696	35,082	9,736	3,248	66,258	135,950	128,184	77.4	83.0	39,733	20,322	18,002	13,152
Texas & New Orleans	April	4,166	11,200	233	12,065	11,196	2,138	1,794	250	1,650	1,557	192	271	4,297	8,972	8,319	74.4	74.3	3,093	1,317	715	607
	4 mos.	4,166	42,673	1,046	46,125	44,122	7,876	7,263	989	6,539	6,196	770	1,024	16,732	34,581	33,452	75.0	75.8	11,544	4,748	2,615	1,681
Spokane International	April	150	351	....	361	379	54	73	3	26	36	9	5	83	189	212	49.8	56.0	181	93	61	71
	4 mos.	150	1,211	....	1,244	1,417	187	250	12	123	132	49	21	290	665	820	53.4	57.8	580	286	213	250
Spokane, Portland & Seattle	April	936	2,718	51	2,957	2,405	428	454	63	457	440	128	38	981	2,033	1,989	68.7	82.7	925	403	461	168
	4 mos.	936	10,024	244	10,961	9,752	1,704	1,697	251	1,885	1,831	512	139	3,943	8,140	7,954	74.3	81.6	2,821	1,108	1,426	771
Tennessee Central	April	284	321	....	333	326	46	35	5	52	52	22	18	119	259	239	77.9	73.4	73	24	14	26
	4 mos.	284	1,341	....	1,392	1,311	161	185	21	214	205	86	73	485	1,032	1,024	74.1	78.1	361	92	110	30
Texas & Pacific	April	1,831	5,370	256	6,258	5,705	865	832	93	1,010	1,027	268	204	2,590	4,950	4,707	79.1	82.5	1,308	512	387	161
	4 mos.	1,831	22,075	1,148	25,533	24,650	3,145	3,209	407	4,239	4,291	1,077	819	10,248	19,924	19,278	78.0	78.2	5,609	2,116	1,507	1,242
Texas Mexican	April	161	324	....	352	327	63	65	6	33	33	11	12	76	207	199	58.8	60.8	145	63	44	40
	4 mos.	161	1,121	....	1,237	1,268	232	225	23	134	134	45	49	333	841	801	68.0	63.2	396	161	85	127
Toledo, Peoria & Western	April	239	632	....	647	645	73	73	7	55	63	13	50	168	389	387	60.1	60.0	258	106	82	78
	4 mos.	239	2,410	....	2,476	2,455	291	292	27	202	241	50	204	670	1,543	1,526	62.3	62.2	933	396	279	267
Union Pacific	April	9,745	37,375	1,640	42,080	37,035	5,253	5,613	587	8,111	7,718	2,190	1,401	14,421	31,407	29,858	74.6	89.6	10,673	5,921	3,090	2,050
	4 mos.	9,754	148,119	7,096	166,684	148,860	20,808	19,502	2,321	32,547	28,789	8,657	5,143	57,219	124,634	114,449	74.8	76.9	42,050	23,767	11,698	9,129
Virginian	April	608	3,707	....	3,866	3,813	512	425	79	765	711	286	65	793	2,290	2,120	59.2	55.6	1,577	764	1,047	936
	4 mos.	608	14,888	....	15,494	16,630	2,095	1,917	344	2,941	2,883	1,131	250	3,244	9,060	9,025	58.5	54.3	6,434	3,229	4,135	4,209
Wabash	April	2,392	9,035	303	10,376	8,540	1,219	1,050	124	1,458	1,214	448	372	4,625	8,120	7,053	78.3	82.6	2,256	622	782	255
	4 mos.	2,392	34,113	1,553	39,559	35,911	4,708	4,100	499	5,775	5,567	1,792	1,442	18,497	32,195	29,650	81.4	82.6	7,364	2,471	1,908	1,140
Ann Arbor	April	294	700	....	709	668	86	77	7	169	148	45	36	351	666	623	93.9	93.2	43	56	—40	—31
	4 mos.	294	2,804	....	2,833	2,816	327	280	26	633	628	154	140	1,419	2,609	2,537	92.1	90.2	224	229	—53	1
Western Maryland	April	844	4,445	....	4,622	3,679	578	517	48	802	780	283	128	1,372	3,098	2,850	67.0	77.5	1,524	876	1,062	744
	4 mos.	844	16,394	....	16,912	14,971	2,300	2,118	189	3,321	3,109	1,131	507	5,392	12,415	11,721	73.4	78.3	4,498	2,480	3,401	2,821
Western Pacific	April	1,190	4,392	139	4,650	3,953	427	633	79	711	660	217	259	1,564	3,256	3,243	70.0	82.0	1,394	610	721	336
	4 mos.	1,190	16,749	572	17,744	15,675	1,920	2,377	322	2,744	2,639	866	964	6,126	12,933	12,832	72.9	82.2	4,811	2,175	2,427	1,448
Wisconsin Central	April	1,031	2,751	13	2,932	2,411	341	377	43	497	486	108	95	1,155	2,237	2,203	76.3	91.4	695	180	318	—93
	4 mos.	1,031	9,828	53	10,440	9,988	1,284	1,376	174	1,871	1,973	432	391	4,698	8,833	8,815	84.6	88.3	1,607	703	215	—260




Foam neoprene cores have both wicking and pumping action
Triple center wicking action, direct from bottom of box to journal
Chenille loops for resiliency, wicking and distribution

Triple center wicking action feeds an abundant supply of oil to the journal by the most direct path. More oil flows up through the neoprene cores and still more wicks up through the fabric panels, assuring complete saturation of the chenille cover at all times.

ABSCO

LUBRICATING PAD HAS TRIPLE CENTER WICKING ACTION

The Absco journal lubricating pad is the first and only pad to be engineered and produced with all the advantages and characteristics that critical railroad men prefer!

Positive wicking action. Special twisted loop chenilling distributes steady flow of oil over entire journal. Specially engineered center section provides additional path for direct wicking action at shortest distance between free oil and journal. Foam neoprene cores provide further wicking capacity.

Resilience. Foam neoprene cores, specially compounded for high resilience with great resistance to set. The compressible chenille loops add to overall resilience.

Ease of application. Easily installed. No tools required. Reversible side to side, top to bottom, end for end.

Stability. Sturdy fabric retainers resist shifting, even at low temperatures.

Interchangeability. Absco pads fit standard A.A.R. journal boxes. No modifications necessary.

Ease of renovation. Built to withstand roughest cleaning methods. No delicate or heavy metal parts to break or tear loose.

Non-linting. Thoroughly washed and pre-shrunken cotton wicking material was especially selected for its non-linting characteristics.

Long life. Accelerated life tests indicate durability far in excess of the present renovation interval, even under extreme service conditions.

This impressive combination of features and advantages is exclusive with the Absco lubricating pad.

A-2996

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RAILROAD PRODUCTS DIVISION • 530 Fifth Avenue, New York 36, N. Y.

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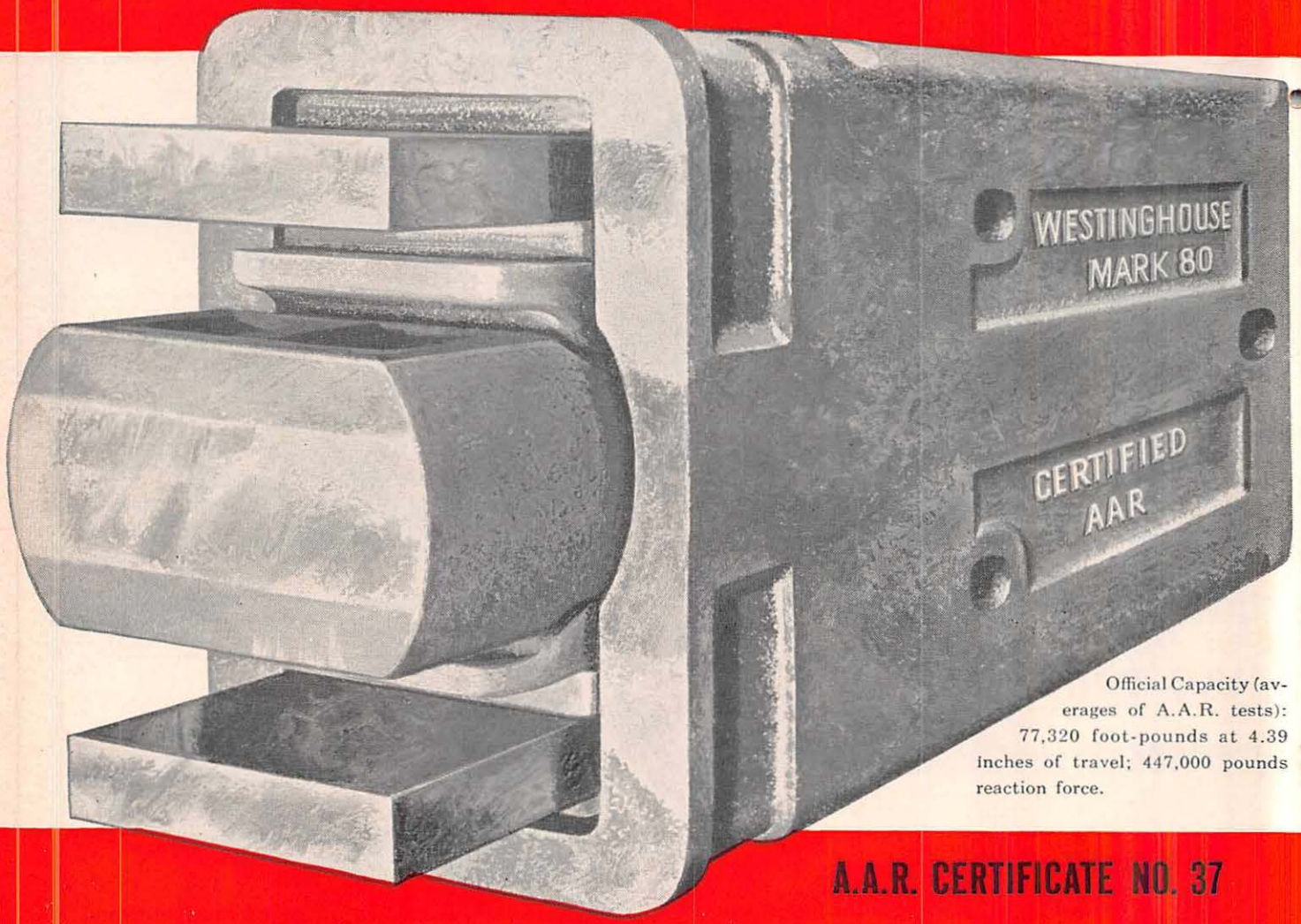

Official Capacity (averages of A.A.R. tests): 77,320 foot-pounds at 4.39 inches of travel; 447,000 pounds reaction force.

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MARK 80

FRICTION DRAFT GEAR

FOR 36-INCH POCKETS

LET MARK 80 REDUCE YOUR DAMAGE CLAIMS

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Again...Cardwell Westinghouse makes a friendly worker out of friction. MARK 80 is the POSITIVE ANSWER to modern stresses and strains, assuring lowered maintenance costs . . . longer car life...and very important savings in claims! Specify MARK 80 for priceless new protection!

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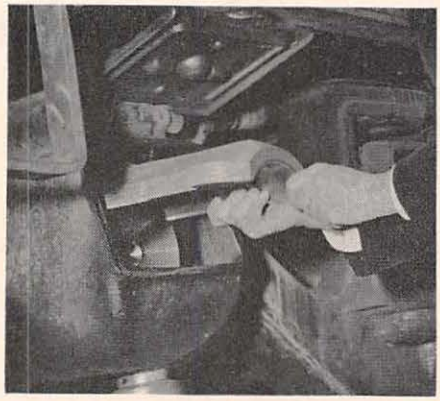
Canadian Cardwell Co., Ltd., Montreal 18, Quebec

New Products Report

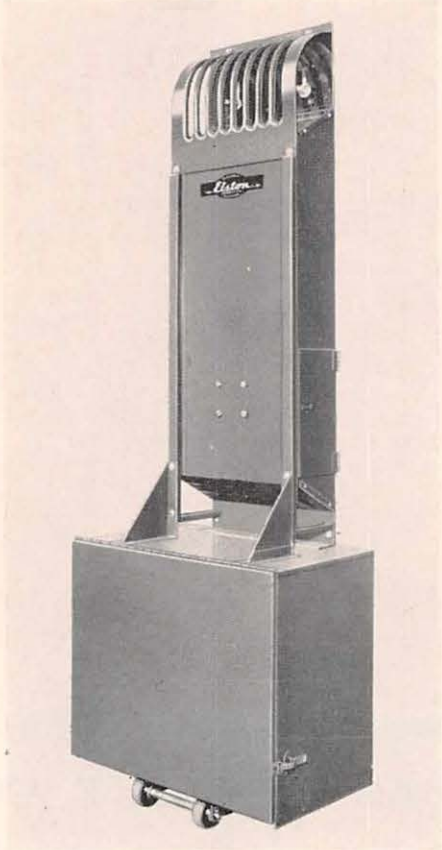


Odorless Deodorant

The NCG odorless deodorant, produced by the McGraw-Edison Co., can be circulated in the air or mixed with wash water, according to R. W. Burmeister, head of NCG medical sales. It can be sprayed directly on wounds or bandages and inhibits the growth of molds and mildew. It is non-toxic and non-allergenic. *National Cylinder Gas Division of Chemetron Corporation, Dept. RA, 840 N. Michigan Ave., Chicago 10.*

Aluminum Bearing

An aluminum-tin alloy, 750-T5, is being used to manufacture solid freight car bearings. The AAR has given permission for operation of 100 car sets under Alcoa captive cars. It is claimed that these bearings run cooler, have longer life, and are corrosion resistant. Weight is about ⅓ that of standard bronze bearing; price is somewhat higher. *Aluminum Co. of America, Dept. RA, 1501 Alcoa Bldg., Pittsburgh 19.*



Journal Test Car

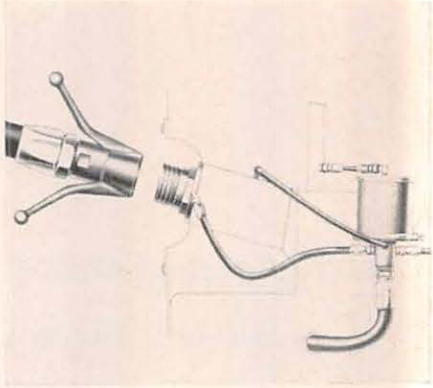
Over 600 freight-car axles a day can be inspected with the Sperry journal test car. It features a new ultrasonic Reflectoscope, battery operated from a transistorized power supply. The angled-beam of the six-crystal search probe bounces the sound off the sides of an axle to locate flaws. A red light in the probe handle signals when a defect is found. The car has a fiberglass body. *Sperry Products, Inc., Dept. RA, Danbury, Conn.*

Journal-Box Dust Guard

The Absco dust guard consists of resilient synthetic foam molded over a resin-impregnated fabric core. It fits the dust-guard well firmly enough to prevent shifting during normal lateral movement of the axle. The resin-impregnated core is stronger than plywood and smaller than an ordinary guard, allowing extra thick foam for improved durability and closure. *Dept. A, American Brake Shoe Co., Dept. RA, 530 Fifth Ave., New York 36.*

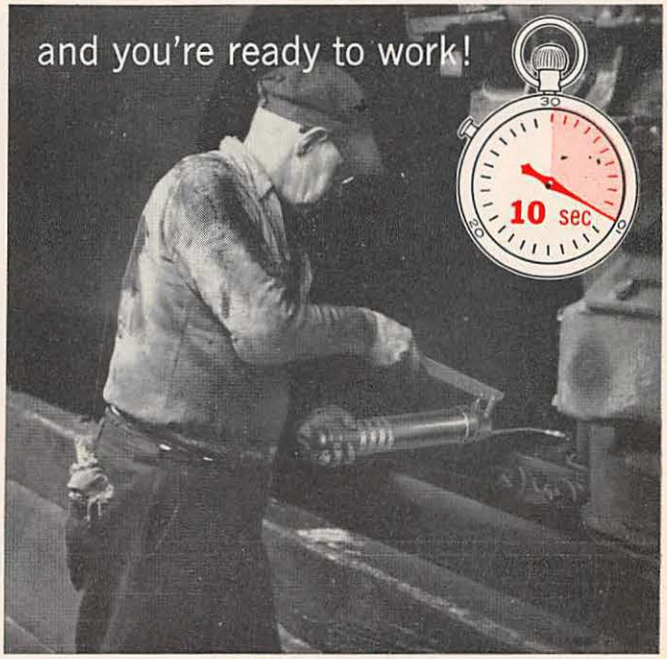
Gas-fired Cargo Heater

The new series Elston Rollaway cargo heaters are portable and self-contained. Burner assembly is completely enclosed. No exterior mounting of regulators is necessary. Propane bottles are in bottom of unit. Single bottle X-700 has fuel for 50 hrs normal operation, dual bottle X-900 for 100 hrs. Both deliver 16,000 btu and comply with ICC requirements. *Rue R. Elston Co., Inc., Dept. RA, 2223-15th Ave., South, Minneapolis.*



Fueling Unit

This automatic fueling unit for standard locomotives has a flow rate of 10 to 300 gpm and fully fills tank. Basic parts are fuel nozzle, locomotive coupling half, and float assembly. Flow is governed by pilot flow of fuel to float through orifice in piston valve in coupling half. When float reaches proper level, pressures equalize on both sides of piston and spring closes piston, stopping fuel flow. *Aeroquip Corp., Dept. RA, Jackson, Mich.*



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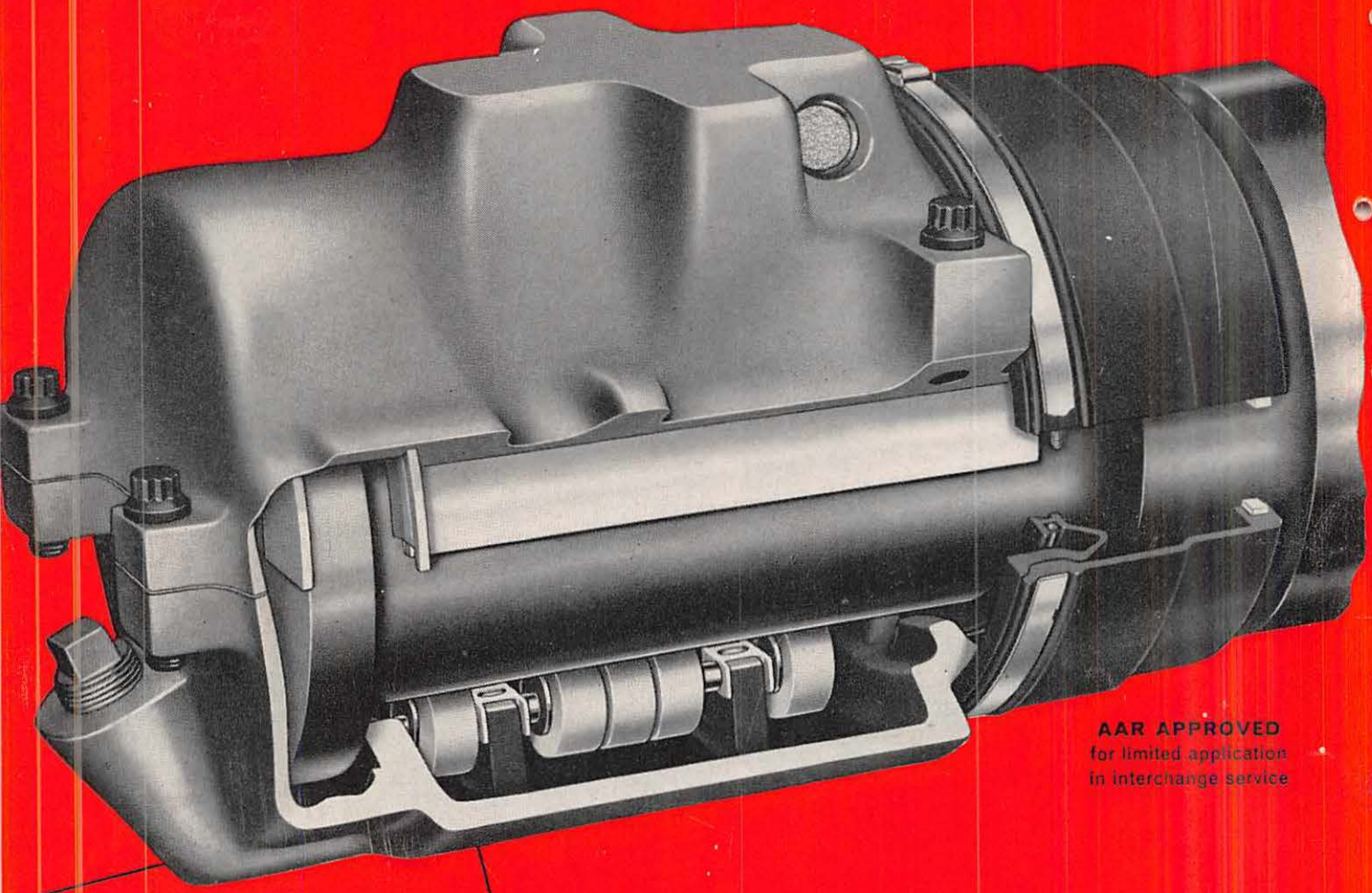
PROGRESS REPORT



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The CLEVITE Bearing Cartridge is a development of Cleveland Graphite Bronze division of Clevite Corporation

Per Diem Bill Clears Committee

An incentive per diem bill has cleared the Senate Committee on Interstate and Foreign Commerce.

The approved bill is S.1789, sponsored by 19 senators from western and midwestern states and favored by a group of 14 railroads which have been advocating a higher car-rental charge than the present $2.75 per day. The committee voted last week to send it to the Senate calendar with a favorable report.

The bill would give the ICC an alternative in setting the per diem rate, allowing the rate to be based on car-ownership costs or value in use. It would enlarge the Interstate Commerce Act's section 1 (14) (A) by adding the following:

"In fixing the compensation to be paid for the use of freight cars, the Commission shall give consideration to the level of freight car ownership and to other factors affecting the adequacy of the national freight car supply and shall, on the basis of such consideration, determine whether compensation should be computed on the basis of elements of ownership expense involved in owning and maintaining freight cars, including a fair return on value (which return shall be fixed at such level as in the Commission's judgment will encourage the acquisition and maintenance of an adequate freight car fleet), or should be computed on the basis of elements reflecting the value of use of freight cars, or upon such other basis or combination of bases as in the Commission's judgment will provide just and reasonable compensation to freight car owners, contribute to sound car service practices, and encourage the acquisition and maintenance of a car supply adequate to meet the needs of commerce and the national defense."

The ICC does not oppose S.1789, but it prefers another pending incentive per diem bill, S.1811, and it also wants authority to impose penalty per diem rates. The latter is proposed in S.1812. No committee action was taken on either of these "ICC bills."

The committee's vote to report S.1789 came a week after the per diem issue, which is controversial in the railroad industry, was aired at hearings before its subcommittee on freight car shortages (RA, June 15, p. 20). The vote was a set-back for railroads that oppose any per diem legislation, and for the AAR which wanted to defer legislation until its newly-appointed per diem committee has made a report.

The committee clearance still leaves S.1789 far short of final enactment. At the same time, it was a win for the 14-road group whose case was presented at the subcommittee's hearing by Eldon Martin, vice president and general counsel of the Burlington.

Export Grain Rates Studied

Western railroad traffic men are studying a proposal to set low export rates on whole grains.

The proposed rates would apply from Kansas City, Mo.; Omaha, South Omaha and South Sioux City, Neb.; Council Bluffs and Sioux City, Iowa; and interior points in Iowa, Missouri and Minnesota to ports on Lake Michigan and Lake Superior.

As the proposal stands, only one transit would be allowed from a proportional rate point of origin to a lake port of destination on the proposed proportional rates. Two transits would be allowed on shipments forwarded on proposed local export rates.

Reasons for the move: the opening of the St. Lawrence Seaway and the increasing truck competition for grain traffic.

The proposed reductions average about 15%.

Roads proposing the rates (reportedly the Milwaukee and the C&NW) contend that the present rail rate structure doesn't adequately meet the rate requirements of export movement through the lake ports. A "tremendous volume" of inbound grain from western Iowa and southern Minnesota, they found, "has already moved by truck to Chicago and other lake ports for export."

The carriers' study of truck operations for 1958 showed that grain received at Chicago by truck totaled 9,360,000 bushels, of which about 4,500,000 originated in central and western Iowa. Other grain, not included in the figures, went by truck to Illinois River terminals and moved via barge to Chicago.

The railroads also noted that "a comparison of the first five months of 1959 with the same period in 1958 shows that truck receipts in Chicago increased from 2,464,000 bushels to 5,730,000 bushels, or more than 130%. There is also a very heavy truck movement of soybeans from Iowa and Minnesota surplus producing areas to Chicago.

"Other studies indicate that there has been a tremendous increase in the trucking of grain to the Lake Superior ports as a result of the opening of the St. Lawrence Seaway. During the first three months of 1959, more than 3,600,000 bushels of grain have been received at these ports."

REA Fears Death Blow From Parcel Post Bill

The Railway Express Agency could not survive the effects of a bill now in the Senate, REA President William D. Johnson warned last week.

The bill—S. 1306—would increase from 20 to 70 pounds the weight of individual parcel post packages moving by mail in competition, as Mr. Johnson pointed out, with private common carriers between most first class post office cities. He said the average weight per piece of express is only 26 pounds.

Contract Rate Proposed

A "contract rate" on carpets and rugs, subject to rail movement of 80% or more of total annual shipments, has been proposed to the Traffic Executive Association—Eastern Railroads.

As reported in Traffic Executive Bulletin No. 86, the rate is described as:

"Carriers proposal to establish contract rate $1.55 minimum weight 30,000 lbs and $1.25 on weight in excess of 30,000 lbs for application to carload shipments of carpets and rugs from Amsterdam, N. Y., to Chicago, Ill., limited to one delivery only within the Chicago district, one subsequent delivery consisting of not more than one truck load to be made by the railroad to one other point in that district at a charge of $15.00 over and above all other freight charges, subject to movement 80% or more of total shipments by rail annually, subject to expiration date of one year unless extended by mutual agreement between interested shippers and the railroads."

Salt Lake Causeway: Year Ahead of Schedule

First trains are expected to roll over the Southern Pacific's 13-mile causeway across Great Salt Lake in July—roughly a year ahead of schedule. Practically all of the 43.5 million cubic yards of sand, gravel and rock required has now been placed. Dumping of material by barge has been completed and the railroad's inland "navy" of 11 barges and several smaller craft has been disbanded and placed on sale. Laying of the single track on the fill was to get under way toward the end of May. This view shows the location of the causeway relative to the existing trestle which it will replace. The causeway is joined to existing line at both ends by 1-deg. 30-min. reverse curves. Camera angle is responsible for the distortion of the curve.

80 New Cars Move Via TOFC

Frisco's new tariff for TOFC movement of loaded auto transporters has started paying dividends.

Three auto manufacturers have sampled the rail-truck coordinated service. Indications are that Frisco—and perhaps other roads in the West and South—may have a booming new-car business in coming months.

Biggest shipment to date was 80 new automobiles (37 Plymouths, 29 Dodges, 9 Chryslers and 5 Imperials) which moved via Frisco piggyback from St. Louis to Dallas. The Plymouths were trucked into St. Louis from an assembly plant at Evansville, Ind.; the other Chrysler products originated in Detroit and also moved to St. Louis via over-the-road auto transporter.

The new cars were mixed on the trailers (loaded according to make and number ordered by dealer) and the 20 double-deck trailers were loaded on 10 TOFC flats. Frisco had the cars in Dallas, ready for delivery to dealers, about 24 hours later.

According to Chrysler's corporate traffic director, Paul J. Fritzching, Jr., this move was only a beginning.

"While this initial shipment was for dealers in Texas," he said, beginning with the 1960 model production, Chrysler Corp. plans to utilize this method of transport to serve dealers in Oklahoma as well. Preliminary discussions and studies are also under way for utilizing the system for dealers in the South and Far West.

"We can expect application of this method of shipping new cars to expand to other areas of the country in the future."

Frisco has also moved one trailer-load of Mercury automobiles and was scheduled to take two trailer-loads of Ramblers over the St. Louis-Dallas route last week. In all cases, according to the railroad, the shipments have gone through without damage.

Frisco's tariff, which went into effect May 15, sets up joint through commodity rates between St. Louis-East St. Louis and more than 675 points in Texas and Oklahoma (RA, May 4, p. 9). Transportation charges under the new joint rates offer cost savings of 15% to 20% per new car shipped.

At least two other western roads—Southern Pacific and Western Pacific—have also run tests with new-car piggyback.

Canadian Plant Produces Wrought Steel Wheels

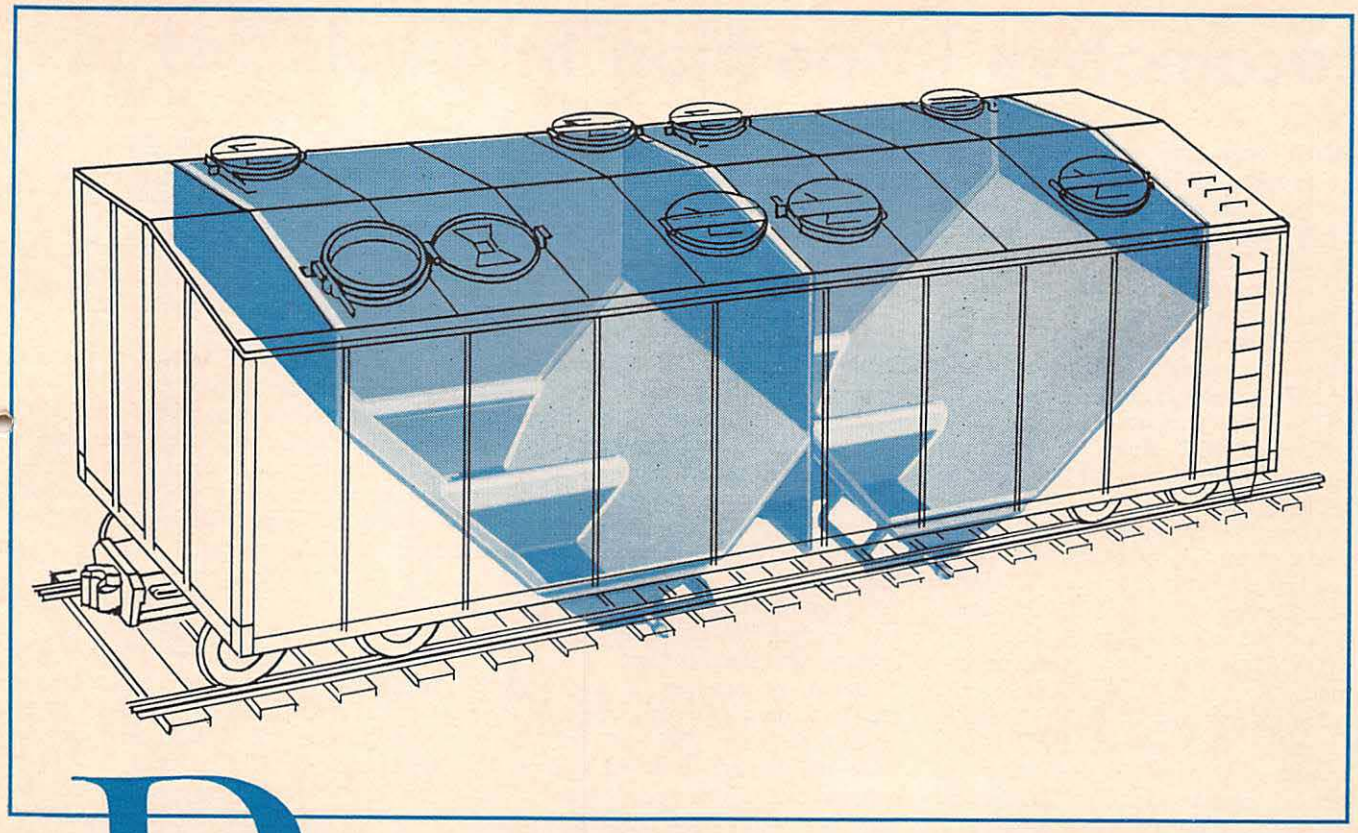
A $12,000,000 wrought-steel wheel plant was opened by Canadian Steel Wheels Ltd. in Montreal last Wednesday. Capable of producing 200,000 rolled-steel wheels yearly and claimed to be the world's most completely automated steel-wheel shop, this plant was established to supply a growing demand for steel wheels in Canada. Canadian Steel Wheels is a subsidiary of Canadian Steel Foundries and English Steel Corp of Sheffield, England.

An AAR regulation which will eventually eliminate all cast-iron wheels from interchange freight equipment in North America has spurred the Canadian steel-wheel market. Prior to the construction of the CSW plant, practically all rolled-steel wheels used in Canada were imported from England. Cast-steel wheels have been produced in Canada for several years.

A force of 175 men will operate the series of automatic operations from the electric melting furnaces through the rotary-hearth ingot furnace to the forging and rolling operations and, finally, the series of heat treating, machining and inspection stations. Wheels from 24-in. to 50-in. diameter can be produced.

More than a hundred government and industry leaders were present while Quebec's Prime Minister M. Duplessis pressed a button on a console in one of the glass-enclosed and air-conditioned control booths from which most of the new plant's intricate operations are regulated. The new plant building in eastern Montreal cost $2.5 million and equipment cost $9.5 million.

In his address, CSW President G. L. McMillin said that "Canada's economic strength is mostly in her immense reserves of valuable mineral ores and other natural resources. Unfortunately, most of them are at great distances from the centers where they will be processed. This country's golden future will be built, as was its past, largely on the foundations for which the nation's active and progressive railway companies have been responsible. We are proud to think we are now in a position to contribute a very real share to the railways' continuing enterprise and to their future."



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Pittsburgh's POLYCLUTCH Lining is a completely new kind of interior coating for covered hopper cars that gives unusual serviceability. It permits more efficient and economical handling of bulk shipments of dry foods and granular or powdered chemicals and plastics.

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- **Besides having been thoroughly tested** in the laboratory, POLYCLUTCH Lining has also been tested on many hundreds of hopper cars all over the country and has earned an enviable reputation for thrifty service. It will pay you to investigate its money-saving benefits on your bulk carriers. Send coupon below for a detailed description of this new kind of lining and how to apply it for best results.

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Locomotive Inspection Intervals Set

Each locomotive unit used in road service must receive a mechanical inspection at least once every 24 hours except when on through runs, the ICC has ruled (RA, June 15, p. 40). In the case of through runs lasting more than 24 hours, the unit must be inspected at the next crew change point immediately beyond the point at which the 24-hr period expired.

These requirements are part of a revision of ICC Rule 203 put into effect by Commission order on June 2, 1959. A general revision of rules pertaining to the inspection and testing of non-steam locomotives was contained in Ex Parte 174 issued in March 1958. Controversial Rule 203 was made the subject of a separate action, Ex Parte 203, which has just been concluded.

Controversy over Rule 203 arose in November 1955 when John A. Hall, director of locomotive inspection, issued a memorandum to ICC field inspectors calling attention to the fact that "trip" in road service meant one way over a division or district. He went on to say that an inspection was to be conducted and a report filed for each locomotive every time that road engine crews changed.

This was an interpretation of Rules 104 (Steam) and 203 (Other Than Steam), issued in 1915 and 1925 respectively, which read: "Each locomotive and tender shall be inspected after each trip, or day's work, and the defects found reported on an approved form to the proper representative of the company . . ."

Director Hall's memorandum was followed by an AAR petition filed in 1956 questioning the "reasonableness and lawfulness" of Rule 203 and its subsequent interpretation.

Steam locomotives, it was pointed out, had for many years operated over several divisions followed only by a Rule 104 inspection at the end of the run and not at intermediate points. This had also been the practice with diesel locomotives.

Design of diesels makes them less liable to mechanical failures. This was supported by ICC accident figures between 1946 and 1957 showing that accidents attributable to locomotive defects or failures occurred once each 3,671,174 steam locomotive-miles and only once each 12,205,228 diesel locomotive-miles.

The Commission admitted that "inspections at each crew-change point would interfere with the flexibility of railroad operation without achieving any greater degree of safety." Investigations have shown that there is no practical or economical method for imposing a mileage limitation on inspection intervals.

This has resulted in the new Commission order which requires:

- Road locomotives, including those in transfer and work-train service, must be inspected once each 24 hr, except that units on through runs exceeding 24 hr must be inspected at the next crew-change point reached after the 24-hr period expires.
- Yard locomotives must be inspected once each calendar day.
- Defects found in violation of ICC regulations must be repaired before the unit is again used.
- Reports of defects and repairs made must be filed on approved forms in the office of the railroad at the terminal at which the unit is "cared for" (not necessarily the inspection point).
- A record of the time, date and place of inspections must be kept on each unit.
- Any competent employee can be designated to make the inspection.
- Report must be approved by designated representative of the railroad; but without this approval, a unit can go back into service if reported defects have been repaired.

AAR Groups to Meet

An estimated 1,000 railroad officers from the U. S., Canada and Mexico are expected to attend the annual meetings of the Mechanical Division and the Electrical Section of the Engineering and Mechanical Divisions of the AAR this week. The meetings are slated for Chicago June 23-25.

Principal speakers at an opening joint session will be Ernest S. Marsh, president of the Santa Fe, and Philip A. Hollar, vice president—assistant to the president of the AAR. The two AAR groups subsequently will hold separate business sessions.

Speakers at the Mechanical Division sessions will include Howard G. Freas, chairman of the ICC; S. M. Houston, general superintendent, mechanical department, Southern Pacific; and William M. Keller, vice president, research department, AAR.

Electrical Section speakers will include F. B. Rykoskey, general superintendent of motive power and equipment, Baltimore & Ohio; L. R. Morgan, assistant research engineer — structures, AAR; and H. P. Wright, electrical engineer for the B&O and chairman of the Electrical Section.

Saunders Lists Merger Benefits

President Stuart T. Saunders of the Norfolk & Western presented the case for voluntary mergers at last week's ICC hearings on the proposed N&W-Virginian unification.

The N&W president estimated that savings as a result of the merger would amount to about $12 million a year at the outset. He predicted that future savings would rise above that figure.

He advanced six basic reasons why he believed the merger would be in the public interest. He said it would:

- Produce more efficient and economical transportation.
- Greatly benefit the coal industry of southern West Virginia and southeast Virginia.
- Enable the combined lines to offer improved services to shippers, particularly those located on the Virginian.
- Open the door to an effective program for attracting industries to the area which the combined lines will serve.
- Extend the economic life of the Virginian.
- Provide more stabilized employment opportunities for employees of the two roads.

Other Norfolk & Western officers supplemented Mr. Saunders' testimony. Intervening railroads included the Atlantic Coast Line, Chesapeake & Ohio, New York Central, and Southern. Statements made on their behalf supported the merger or merely asked that the Commission require the maintenance of existing routes. As to the latter, Mr. Saunders had this to say:

"It will be our policy to maintain existing routes with the Virginian, which will continue to be available to shippers as in the past. I believe, however, that this matter should be mutual and, considering our agreement to maintain existing Virginian routes, that the connecting lines should likewise agree to maintain the routes which they presently have with the Virginian."

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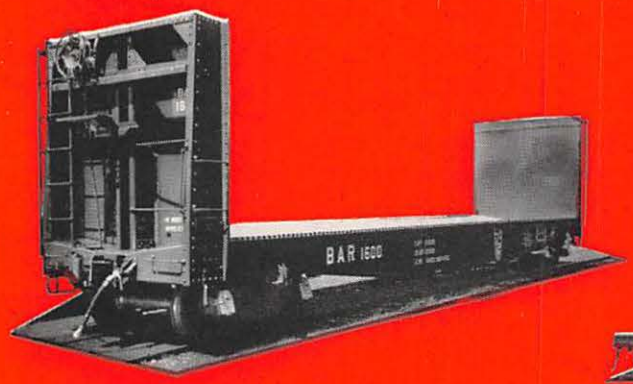

50 ton capacity Pulpwood Car Serving the Bangor and Aroostook Railroad

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Written by and for railroaders in cooperation with the AAR Mechanical Division, this industry-accepted reference work is indispensable to mechanical officers, supervisors, purchasing agents, department heads and others. Over 600 of its 728 lavishly illustrated pages give facts on diesel locomotives, engines and parts; fuels and lubricants; controls; chassis and cabs; trucks; train heating; couplers; draft gears; brakes; shops; engine terminals; mechanical and electrical maintenance. There is a new 66-page section on electrical fundamentals as they apply to diesel-electrics. Complete dictionary of diesel-locomotive terms, bibliography and index.

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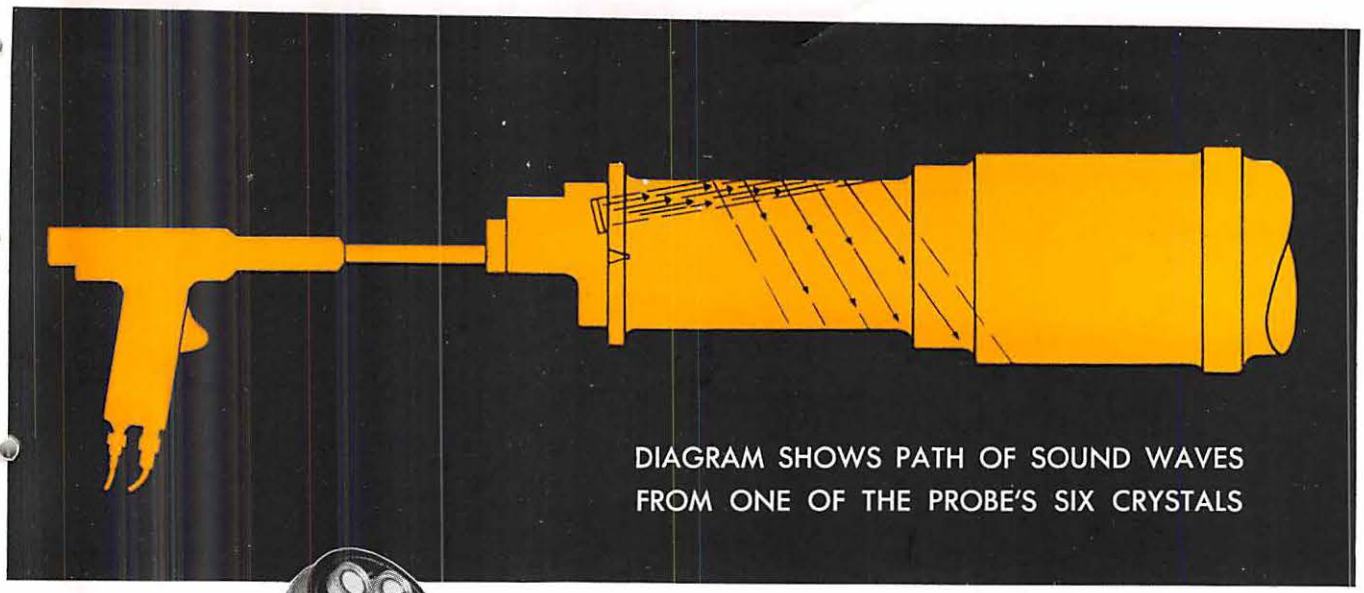

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THE NEW
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The new improved Journal Test Car brings increased testing speeds with greater accuracy. Only Sperry's complete mobile unit, utilizing the exclusive angle beam technique, inspects the most critical areas of axles generally left undetected by other methods. It has "Go-no-go" simplicity. Harmless structural differences inherent in many axles are not misinterpreted as progressive cracks, thereby avoiding unnecessary costly dismantling for verification. The ultrasonic search probe has six angle beam crystals, with replaceable plastic faces. An electromagnet insures uniform search unit contact. A green light signals when the electromagnet is on. Red light and alarm buzzer signals when a progressive fracture is located. Simple as that! No complicated controls to adjust! Works equally well on all diameter freight car axles. Three wheel car has heavy duty fiberglass body, automatic transmission and rugged air-cooled engine. New Ultrasonic Reflectoscope is battery operated from a transistorized power supply.

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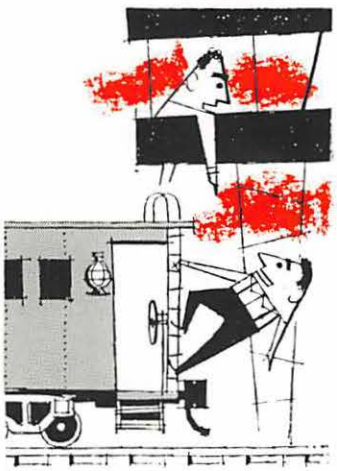

Mr. Zambry Giddens, Vice-President
Railroad Products Division
SERVO CORPORATION OF AMERICA
20-20 Jericho Turnpike
New Hyde Park, L. I., New York

Dear Zam:

On a recent field trip to one of our installations I had the good fortune to be at the signal tower when a long freight was stopped. The caboose came to a halt opposite the tower, and the brakeman yelled up:

"What the hell are you stopping us for?"

The reply from the tower operator came quickly:

"You have a hot box!"

"Are you guys crazy? We don't have a hot box! Where do you think it is?"

"YOU'RE ON TOP OF IT!" yelled the operator, pointing.

The brakeman jumped off the caboose and lifted the lid of the indicated journal box; flames burst out!

I'd call this a beautiful example of how SERVOSAFE Hot Box Detectives stay right on top of the hot box problem.

Very truly yours,

Charlie

Charles D. Roth
Secretary-Treasurer

IT PAYS IN MANY WAYS

to install the patented, time-tested SERVOSAFE® Hot Box Detective*

In the years since the first installation for Chesapeake & Ohio—and with each new purchase by another railroad—savings with SERVOSAFE Hot Box Detectives have been proved out again and again.

It pays as a *safe purchase,* too...for this system is *patented* and *time-tested,* backed by a nation-wide service network.

Write for full information *today* and get the facts on how to serve safety with SERVOSAFE Hot Box Detectives.

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The Delaware, Lackawanna and Western Railroad Company
The Denver and Rio Grande Western Railroad Co.
Duluth, Missabe and Iron Range Railway Co.
Louisville and Nashville Railroad Company
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Norfolk and Western Railway Company
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MARKET OUTLOOK *at a glance*

Carloadings Rise 3.9% Above Previous Week's

Loadings of revenue freight in the week ended June 13 totaled 709,139 cars, the Association of American Railroads announced on June 18. This was an increase of 26,585 cars, or 3.9%, compared with the previous week; an increase of 86,453 cars, or 13.9%, compared with the corresponding week last year; and a decrease of 36,983 cars, or 5%, compared with the equivalent 1957 week.

Loadings of revenue freight for the week ended June 6 totaled 682,624 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, June 6

District	1959	1958	1957
Eastern	100,244	88,167	114,069
Allegheny	132,451	107,274	146,399
Pocahontas	55,798	50,228	65,140
Southern	107,776	115,061	117,687
Northwestern	109,387	90,374	122,365
Central Western	121,706	111,497	116,804
Southwestern	55,262	50,780	51,013
Total Western Districts	286,355	252,651	290,182
Total All Roads	682,624	613,381	733,477
Commodities:			
Grain and grain products	50,847	53,709	47,184
Livestock	4,903	5,499	5,113
Coal	112,765	108,135	138,842
Coke	10,856	5,552	10,621
Forest Products	38,566	38,983	41,332
Ore	80,161	51,232	88,583
Merchandise l.c.l.	41,220	44,371	53,121
Miscellaneous	343,306	305,900	348,681
June 6	682,624	613,381	733,477
May 30	687,726	529,779	671,045
May 23	685,745	570,425	722,903
May 16	694,380	561,040	722,144
May 9	677,398	535,579	723,317
Cumulative total, 23 weeks	14,023,002	12,426,235	15,614,777

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended June 6 totaled 8,389 cars, compared with 5,560 for the corresponding 1958 week. Loadings for 1959 up to June 6 totaled 172,990 cars, compared with 106,621 for the corresponding period of 1958.

IN CANADA.—Carloadings for the ten-day period ended May 31 totaled 102,601 cars, compared with 73,223 cars for the previous seven-day period, according to the Dominion Bureau of Statistics.

	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
May 31, 1959	102,601	38,346
May 31, 1958	118,844	38,774
Cumulative Totals:		
May 31, 1959	1,464,769	597,998
May 31, 1958	1,464,712	612,668

New Equipment

FREIGHT-TRAIN CARS

► *Canadian National.*—Ordered 200 50-ton insulated and heater-equipped box cars from Dominion Iron & Steel Corp. The new cars will supplement CNR refrigerator car fleet which is used in winter to protect perishable shipments from freezing. A prototype heated box car was tested last winter.

► *Pennsylvania.*—Will lease 5,000 70-ton hopper cars for 20 years with option to renew for an additional 10 years. Bethlehem Steel Corp. will build 4,000 of the cars at a cost of about $40,000,000; Greenville Steel Car will build another 1,000 at a cost of about $10,000,000. These orders complete a recently-announced 23,500-car acquisition program (RA, May 18, p. 9).

► *Santa Fe.*—Topeka, Kan., company shops will build 1,000 50-ft box cars equipped with shock-control underframes for delivery beginning in the fourth quarter; and 25 53-ft, 50-ton flat cars for delivery by the third quarter of 1959.

► *Trailer Train Co.*—Ordered 300 additional 85-ft piggyback flat cars. This brings the company's total orders for new cars to 700, valued at approximately $11 million. Pullman-Standard has already delivered 100 of the cars. Of the remainder, ACF will build 300 and P-S 300. The cars are to be equipped with roller bearings, ride control trucks and rubber-cushioned draft gear. When deliveries are completed, the TTX fleet will total 2,614 cars.

LOCOMOTIVES

► *Southern.*—Ordered forty-eight SD-24, 2400-hp road switcher locomotives from Electro-Motive Division at a cost of approximately $12.7 million. Deliveries are expected to begin in October and be completed this year. The units are to go into high-speed freight service. In 1941 the Southern was one of the first roads to put diesel locomotives in freight service.

New Facilities

► *Canadian National.*—Awarded contract to Cameron Contracting Limited for construction of a new express and office building at St. John's, Nfld. CNR has allocated $600,000 for the building plus paving of roadway approaches and loading area.

► *Chicago & North Western.*—Will increase substantially its rail and track program for 1959 over 1958. More than 250 miles of track will receive new ballast. An estimated $3,200,000 will be spent to renew rails, including $443,000 to lay new 115-lb rail in 78-ft lengths between Des Plaines, Ill., and Barrington, 13 miles. C&NW will also build several new passenger stations and resurface a number of station platforms in Chicago suburban area. Passenger elevators in its Chicago terminal will be converted to automatic operation.

PRR Finances 23,500 Car Order

The 23,500-car program announced by Pennsylvania President J. M. Symes at the road's annual meeting (RA, May 18, p. 9) will be financed by banks, insurance companies, pension funds, state funds, etc., but not by equipment trusts. "We couldn't get straight equipment trusts," Pennsy Vice President D. C. Bevan said in describing details of financing for the car program, which involved nine different financing agreements. "There just isn't that kind of money available."

To Mr. Bevan, the difficulty the PRR had in arranging its $225,000,000 program (including $10,000,000 slated for new diesels) pointed up the need for quick adoption of the Symes plan for equipment financing. The Symes plan was suggested, Mr. Bevan said, to take care of the chronic car shortage and to make it possible for every railroad to finance its share of the cars needed. In today's money market, Mr. Bevan went on, many railroads cannot finance their share of cars. "They have no access to this kind of capital," he said.

Government-guaranteed loans, which Mr. Bevan described as "bad money driving out good" will hurt rather than help the industry's efforts to bring the car fleet up to its right size, he said. "We think the government loan type of thing is highly dangerous," he went on, "and should be confined to emergency situations where it is necessary to keep a road out of receivership. It could be very dangerous to our whole private financing set-up."

Mr. Bevan estimated that the Pennsylvania equipment program would amount to almost half of the total freight-car purchases for the year, even though the Pennsy will handle only about 10% of the traffic.

Of the $215 million slated for new cars, all but $28 million in 10-year conditional sales contracts will be covered by several leasing plans arranged through a variety of financial agencies. Cars will be leased for initial terms of 1-20 years. The largest single leasing arrangement involves $85 million and 10,000 cars, 8,000 of which will be built by Pennsy's Altoona shops and 2,000 by ACF (RA, May 18, p. 9).

All told, Altoona will build 11,500 cars, ACF 4,000, Bethlehem Steel 4,000, General American Transportation Co. 1,700, Pullman-Standard 1,000, Greenville Steel Co. 1,000 and General Steel Castings 300. All of the cars will have solid bearings.

The order breaks down by car types into 10,000 70-ton hoppers, 6,300 gondolas, 4,900 box, 1,000 70-ton ore gondolas, 500 covered hoppers, 500 stock cars and 300 flat cars.

About 4,500 cars of the order have already been delivered. The rest will be in service by the end of 1959, PRR hopes, if everything goes as planned. About 18,500 cars will be retired this year, Mr. Bevan said, which will give the road a net gain of 5,000 cars total ownership. Because many of the cars to be retired are currently unserviceable, though, the gain in serviceable cars will be 20,000. The new cars, plus the current maintenance program, are expected to permit lowering the bad order ratio from the present 21% to 14% or 15% by the end of the year.

The scrap prices of the 18,000 cars being retired plus the value of reusable parts will provide $17,000,000 that will cover cash required for the program. Charges to service the debt and lease obligations will amount to about $16,000,000 annually.

The new cars and engines account for all but about $25,000,000 of the PRR budget for capital improvement in 1959, Mr. Bevan said. The cars are expected to be able to handle more traffic, to reduce the road's per-diem charges and to cut maintenance costs. Also important, Mr. Bevan said, "We're extremely optimistic on the traffic outlook for the '60's and we're trying to get ready for it."

CNR Seeks New Business, Savings With Budd Cars

Two RDC-2 rail diesel cars will be placed in service this week on a complex of branch lines radiating out of Guelph, Ont., and Stratford. The two Budd cars, running as single units, will take over schedules of 12 conventional trains. One car will run 432 miles, and the other 300 miles, mainly during the daylight hours, connecting the branch line communities with fast Toronto service at intersecting points.

The new service, due to be inaugurated June 22, will not only provide economies to the railroad, but improved service to the public. The scheduled changes were worked out by a committee of local Canadian National officers in a series of meetings with municipal authorities and shippers in the communities affected. They were asked what kind of schedules would be most likely to attract business back to the rails. Even though there was an over-all reduction in quantity of service, substitution of modern air-conditioned equipment and improved schedules, in which the communities had a hand, engendered favor instead of opposition to the changes.

LUBRICATOR PADS

(Continued from page 34)

points. At Shaffers Crossing (Roanoke) and Portsmouth, Ohio, we have machines leased from a manufacturer. At Lamberts Point (Norfolk) we have equipment of railroad design.

PRR—We have 33 stations using equipment that we designed. Cost is small. The design will be made available to any railroad on request.

Q. Are hot box records accurate?

L&N—Yes. We have a special form that must be completed by conductor when a hot-box occurs. These are sent to superintendent's office, consolidated there, and a monthly report is received by the mechanical department.

N&W—Yes. We have a form giving complete information that must be submitted on every hot box.

PRR—Yes. Our form MP 294 must be submitted on each hot box. It gives complete information, including cause of hot-box if it can be determined.

Dividends Declared

ALABAMA GREAT SOUTHERN.—common, $4, semiannual; 6% participating preferred, $4 semiannual, both payable June 23 to holders of record June 1.

ALLEGHENY & WESTERN.—$3, semiannual, payable July 1 to holders of record June 19.

ATCHISON, TOPEKA & SANTA FE.—5% noncumulative preferred, 25¢, semiannual, payable Aug. 1 to holders of record June 26.

BANGOR & AROOSTOOK.—40¢, quarterly, payable June 30 to holders of record June 19.

BEECH CREEK.—50¢, quarterly, payable July 1 to holders of record June 15.

CANADIAN PACIFIC.—75¢, semiannual, payable Aug. 1 to holders of record June 19.

CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.—$4, semiannual, paid June 19 to holders of record June 5.

COLORADO & SOUTHERN.—4%, non-cumulative 1st preferred, $2, payable July 23 to holders of record July 8.

DELAWARE & HUDSON.—50¢, quarterly, payable June 27 to holders of record June 10.

DENVER & RIO GRANDE WESTERN.—new common, initial, from net income for calendar year 1958, 25¢, payable June 22 to holders of record June 12.

DETROIT, HILLSDALE & SOUTHWESTERN. — $2, semiannual, payable July 2 to holders of record June 18.

EAST PENNSYLVANIA.—$1.50, semiannual, payable July 21 to holders of record July 1.

FORT WAYNE & JACKSON. — 5½% preferred, $2.75, semiannual, payable Sept. 2 to holders of record Aug. 19.

ILLINOIS CENTRAL. — 50¢, quarterly, payable July 1 to holders of record June 1.

KANSAS, OKLAHOMA & GULF.—3% non-cumulative preferred, $3; 6% preferred A, $3; semiannual; 6% preferred B, $3, semiannual; 6% preferred C, $3, semiannual, all paid June 1 to holders of record May 23.

MASSAWIPPI VALLEY.—$3, semiannual, payable Aug. 1 to holders of record July 1.

NASHVILLE & DECATUR.—guaranteed, 93¾¢, quarterly, payable July 1 to holders of record June 20.

Supply Trade

L. L. White, Jr., general sales manager, **Brandon Equipment Company, Inc.,** has been named vice president.

Leo De Fiore, chief engineer of the **Youngstown Sheet & Tube Co.,** has been appointed director of engineering. **Carl J. Lucas,** assistant chief engineer in charge of projects and development, has been named chief engineer.

R. Clifford Howell, special representative, railroad sales, Chicago office, **New York Air Brake Co.,** has been advanced to assistant western manager there.

Robert W. McNeily has been elected president and director of the **M&J Diesel Locomotive Filter Corp.,** Chicago. **George H. Snyder** has been elected vice president—sales.

Don V. Slaker, chief engineer, Dump Car department, Eddystone division, **Baldwin-Lima-Hamilton Corp.,** has retired, after 33 years of service.

Chicago Freight Car & Parts Co. has recently changed its name to **Chicago Freight Car Co. Charles F. Simpson** has been appointed sales manager; **H. J. Van Dellen,** chief engineer, and **Louis O. Sloss,** secretary-treasurer.

E. Albert Wagner, manager of development engineering, Exide Industrial Division, **Electric Storage Battery Co.,** has been named manager, service engineering division.

The following appointed district managers —railroad district by **Electro-Motive Division** of **General Motors Corp.: B. K. Wingerter, A. K. Auburn** and **W. A. Stringer,** Eastern Region; **A. E. Roberts, P. C. Ganzar, N. A. Minor, A. J. Marcussen** and **W. A. Thomas,** Chicago Region; **G. B. Gowen, R. E. Hill** and **J. E. O'Leary,** St. Louis Region.

D. Gregg Cummings, exhibit manager, public relations department, Electro-Motive Division, has been appointed assistant advertising manager.

Standard Railway Equipment Manufacturing Co. has announced acquisition of **George T. Murphy Co.,** Waukegan, Ill., manufacturer of glass fiber reinforced paper grain doors and related glass fiber products. **W. E. Olds,** president and general manager of Standard's Railway Equipment Division, has been elected president of the latter which will be operated by the division. **George T. Murphy,** former owner, will serve as consultant. **William G. Gray** appointed special representative, Railway Equipment Division, Chicago. Mr. Gray was formerly associated with **Miller Lubricator Co.**

William M. Haile, president of **Linde Co., Division of Union Carbide Corp.,** has been elected a vice president of Union Carbide. **William B. Nicholson** appointed president of Linde Co. to succeed Mr. Haile.

John D. Sharp has been appointed district sales manager and **John J. McClanahan** has been named sales representative for a new district sales office of **Industrial Brownhoist Corp. at** 9 Office Park, Birmingham 9, Ala.

Engineering Controls, Inc., St. Louis, Mo., has appointed **Central Equipment Co.,** 80 E. Jackson Blvd., Chicago 4, as its sales representative to the railway industry.

The **United States Steel Corp.** has added the Huttenwerk Oberhausen Aktiengesellschaft, Oberhausen, Germany, to the group of steel producers who are licensed to manufacture and sell its COR-TEN brand corrosion-resistant high-strength low-alloy steel.

VAPOR PHASE® Cooling System Gives Great Northern Diesel...

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● Vapor Phase equipment at rear of F-7 unit carbody includes 1) 20 psi Safety Valves; 2) Thermostatic Air Vents; 3) Steam Separators; 4) Condenser; 5) Steam Pressure Regulator; and 6) Flexible Coupling.

Over a year ago, Great Northern installed Vapor Phase Cooling on an EMD F-7 Diesel Locomotive equipped with a dual-fuel system. Vapor Phase Cooling uses the natural law of boiling in place of conventional cooling for jacket water and is entirely automatic.

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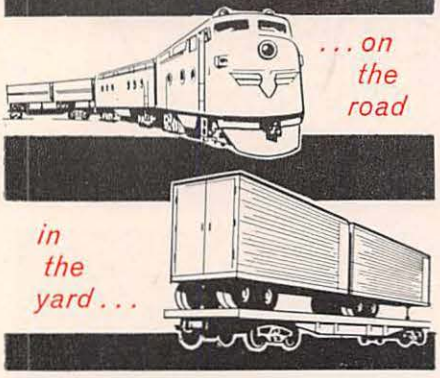

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People in the News

ALGOMA CENTRAL & HUDSON BAY.—C. H. Paul, assistant traffic manager, Sault Ste. Marie, Ont., appointed traffic manager there, succeeding **J. P. Mader,** who retires June 30.

BALTIMORE & OHIO.—J. E. Graham, senior engineer at Cincinnati, Ohio, appointed regional engineer, Western region, at that point, succeeding **James P. Ray,** whose retirement was noted in RA, Feb. 1, p. 65.

BRITISH & IRISH RAILWAYS.— S. L. F. Allen, passenger assistant to district traffic manager at Leicester, England, appointed deputy-general traffic manager in North America, at 9 Rockefeller Plaza, New York, succeeding **W. F. Spree,** retired.

BURLINGTON.—Clarence E. Larsen, assistant freight traffic manager, Chicago, appointed assistant to vice president, traffic department there, succeeding **J. J. McGarry,** promoted (RA, June 8, p. 27). **H. Wayne Hotaling,** general freight agent, Colorado & Southern, Denver, named to succeed Mr. Larsen, Mr. Hotaling's successor is **Jens C. Jensen,** assistant general freight agent, rates and divisions department, Chicago. **Lloyd J. Gilmore** appointed to the newly created position of general freight agent, rates and divisions department, Chicago. **Robert E. Parrish,** chief rate clerk, named assistant general freight agent, Chicago.

CANADIAN NATIONAL-GRAND TRUNK.—David Kantor, general agent, GTW, Battle Creek, Mich., appointed general agent, freight traffic department, CNR-GTW, Chicago.

Alfred Beatty Rosevear, general solicitor, CNR, Montreal, has retired.

CANADIAN PACIFIC.—L. S. Vaines, acting general supervisor, loss and damage prevention, Montreal, appointed chief supervisor of loss and damage prevention there.

CHESAPEAKE & OHIO.—James H. Suthann, assistant freight traffic manager, Detroit, appointed manager of piggyback services there.

James L. Alvord, division engineer, Grand Rapids, Mich., appointed senior staff engineer, Cleveland, with responsibility for engineering staff services to operating department officers. Mr. Alvord assumes management development and personnel functions within the operating department previously assigned to **John E. McLeod,** staff assistant to vice president—operations, who retired June 1.

CHICAGO & EASTERN ILLINOIS.—George E. Bennett, purchasing agent and superintendent motive power, Danville, Ill., elected vice president and purchasing agent there.

Effective July 1, **J. P. Maddock** appointed freight sales manager, Portland, Ore., succeeding **F. A. Marshall,** resigned.

Don K. Brideson appointed traffic representative, Chicago, succeeding **Vernon J. Zipfel,** transferred to Evansville, Ind.

CHICAGO & NORTH WESTERN.—Edwin R. Butler, Jr. appointed supervisor automatic train control—system, Chicago.

Ernest T. Hadley, Jr. and **Bert V. Havard** appointed general agents, Medford, Ore. and Salt Lake City, respectively. **James E. Thompson** named division freight agent, St. Louis.

CLINCHFIELD.—R. H. Wilson appointed assistant engineer, Erwin, Tenn.

DULUTH, MISSABE & IRON RANGE.—Donald B. Shank, assistant general manager, Duluth, Minn., appointed general manager there.

GULF, MOBILE & OHIO.—E. A. Brautigam appointed assistant general freight agent (commerce), Mobile, Ala. **W. C. Gibson** named commerce agent, Mobile.

KANSAS CITY SOUTHERN.—W. B. Johnson appointed superintendent of machinery, Pittsburg, Kan., succeeding the late **L. W. Van Nattan. A. K. Connell** named assistant superintendent of machinery, Pittsburg.

LOUISVILLE & NASHVILLE.—Joseph J. O'Connor, assistant traffic manager for the **Clinchfield,** Erwin, Tenn., appointed executive general agent, L&N, 835 Woodward Building, Washington, D.C.

NAVY DEPARTMENT.—Rear Admiral Thomas A. Long, Supply Corps, U.S. Navy, has been appointed assistant chief for transportation in the Navy's Bureau of Supplies & Accounts, Washington, D.C., succeeding **Rear Admiral Edward F. Metzger.**

NEW HAVEN.—James C. Rhodes, division freight agent, Waterbury, Conn., appointed assistant general freight agent, Boston, Mass. **Frank N. Powers** succeeds Mr. Rhodes. **William J. Berry** appointed district traffic agent, Presque Isle, Me., succeeding **Kenneth M. Fraser,** transferred to Pittsburgh, Pa.

NEW YORK CENTRAL.—Ward H. Leahy, director—car reporting, New York, appointed assistant to general manager—transportation. **John C. Scott,** assistant director—car reporting, named director—car reporting. **Albert F. Rozell,** assistant manager—transportation, appointed assistant to superintendent—yards and terminals; **William J. Klinka,** supervisor—general car utilization, named assistant chief freight

transportation inspector. All have headquarters at New York.

Joseph M. Ostrow, research assistant, New York, appointed assistant director, market research.

NICKEL PLATE.—Ralph W. Meyer, district passenger agent, Chicago, appointed assistant general passenger agent there, succeeding **Robert G. Wood,** named general agent, freight traffic office, Los Angeles, Cal.

NORTHERN PACIFIC.—E. T. Gibson, chief of the freight traffic service bureau, St. Paul, named assistant to general freight traffic manager, succeeding **H. A. Shultz,** who retired June 1. Mr. Gibson's successor is **R. S.Wells,** chief clerk to freight traffic manager. **M. A. Hanson,** manager, research section, Trans-Continental Freight Bureau, Chicago, named to the newly created position of general freight agent—rates, NP, St. Paul. **R. S. Sandgren,** commerce assistant, appointed commerce agent, replacing **W. A. Hart,** assistant general freight agent, retired.

ONTARIO NORTHLAND.—H. Richard Bailey appointed storekeeper, North Bay, Ont., succeeding **J. A. O'Donnell,** retired.

PENNSYLVANIA.—C. B. Armbruster appointed statistician, Philadelphia.

J. S. Bennett named medical officer, Philadelphia.

John W. Rathvon, trainmaster, Columbus, Ohio, appointed supervisor of transportation engineering, Northern region, Buffalo, N.Y.

Donald R. Kearsing, passenger sales representative, appointed freight and passenger agent at Elizabeth, N.J., succeeding **William C. Thomas,** who is ill.

RUTLAND.—William I. Ginsburg, executive vice president at Rutland, Vt., will become president on July 1, succeeding Alan T. Danver, who will retire after 34 years with the railroad.

SOUTHERN PACIFIC.—Charles O. Kramer, assistant electrical engineer, San Francisco, appointed electrical engineer there, to succeed **Luther F. Williams,** who retired May 31. **Theodore L. Wolff** named to replace Mr. Kramer.

W. J. McHugh, assistant superintendent, Mechanical department, Los Angeles, promoted to superintendent, Mechanical department, Southern District, Los Angeles General Shops, succeeding **E. E. Hinchman,** retired (RA, June 1, p. 35).

E. A. Hume, assistant general attorney, Pacific Electric, Los Angeles, advanced to the newly created position of general attorney-claims, SP, San Francisco, succeeding **Wendell Luhr,** general claims agent, retired.

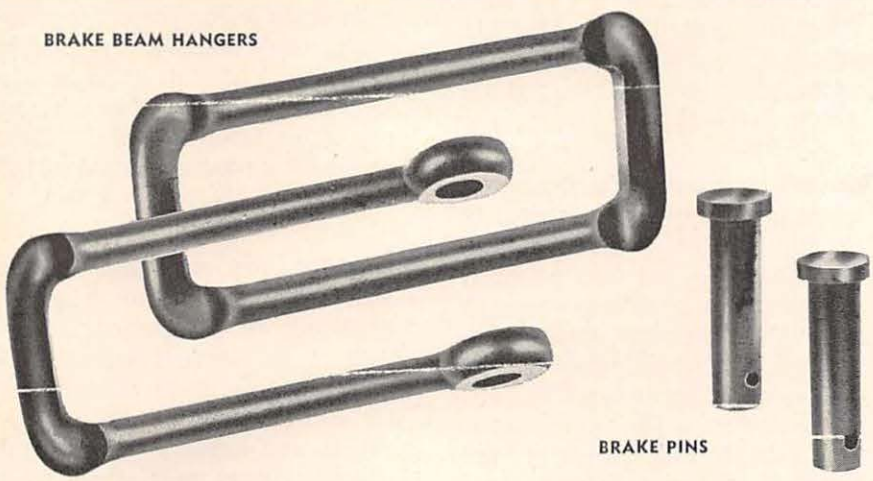
TEXAS RAILROAD ASSOCIATION.—Walter Caven, general attorney, elected general counsel, Austin, Tex., succeeding the late **Kenneth McCalla.**

OBITUARY

Harry V. Cooper, retired general freight claim agent, **Missouri Pacific,** died June 14 in his home in Dubuque, Iowa.

William H. Mitchell, retired general freight agent, sales and service, **Clinchfield,** died June 4 at his home in Erwin, Tenn.

E. Lester Shaw, 63, railroad consultant and analyst for the Wall Street firm of **Vilas & Hickey,** died of a heart attack at his home in White Plains, N. Y., June 15. Mr. Shaw had been with Vilas & Hickey since 1941. Early in his career he had served with the operating department of the Boston & Maine.



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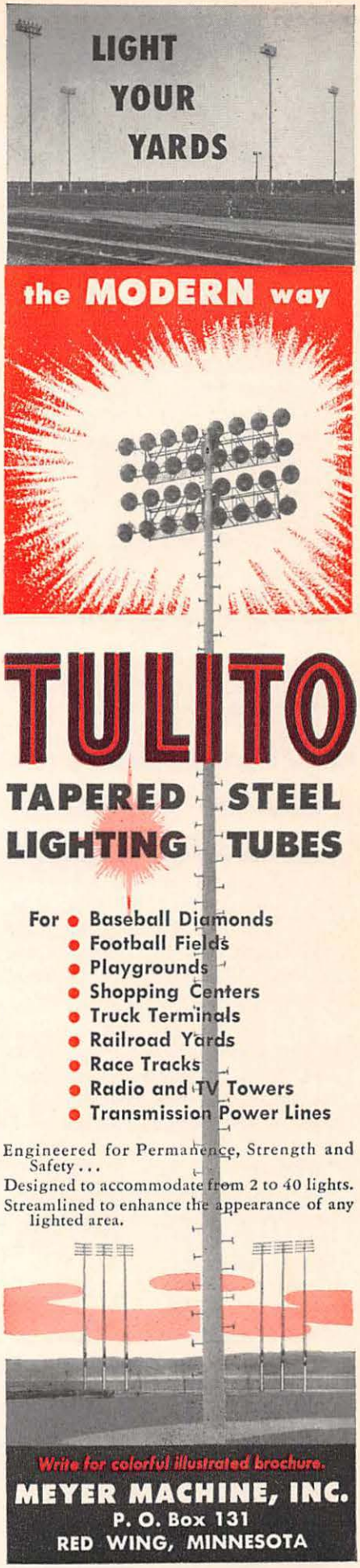

You Ought To Know...

ICC authorization will permit four roads—Illinois Central, Burlington, Milwaukee and Indiana Harbor Belt—to operate over Chicago, Aurora & Elgin tracks and serve CA&E shippers in four principal areas. CA&E discontinued its freight operation earlier this month (RA, June 15, p. 40).

Santa Fe President Ernest S. Marsh has been named to the Advisory Committee for 1960—Visit USA Year. An official committee of the U. S. Department of Commerce, the group will promote the "travel year" which has been proclaimed by President Eisenhower.

Electric heating equipment has been installed in four Chicago & North Western RPO and RPO-baggage cars to permit them to operate either with conventional equipment or with bi-level trains. North Western is running the head-end cars in Nos. 211-212 between Chicago and Green Bay, Wis., and in the bi-level "Flambeau 400" between Green Bay and Ashland.

Southern Pacific 4-8-4 No. 4460, last steam locomotive to see service on SP, has been placed on display at the National Museum of Transport in St. Louis. H. J. McKenzie, president of the Cotton Belt, made the presentation to A. K. Atkinson, Wabash president and chairman and museum board chairman.

More C&NW locomotives are going through builders' shops for repowering and modernization. Deliveries are now being completed on 15 units (two road switchers, 13 yard switchers) which have been re-engined by Electro-Motive Division. In addition, C&NW has 25 units on which new electric throttle equipment is being installed by Fairbanks, Morse.

New president of the American Railway Development Association is F. B. Stratton, director of industrial development for Western Pacific. WP's headquarters city, San Francisco, will be host city next year for the ARDA's 51st annual meeting.

New York attorney Paul J. Kern has won his fight for election to the Chicago & Eastern Illinois' board of directors. C&EI President David O. Mathews stepped down as a director, but will still preside at board meetings under the company's by-laws.

C&O is now playing host at "Chessie Tea Time" on its "Sportsman," "F. F. V.," and "George Washington." Passengers are invited to the dining car between 3 and 4 p.m. for tea, coffee, milk or orange juice, on the house. Chessie, C&O notes, is "pouring as well as purring."

Richard F. Mitchell left the ICC June 15 after 12 years of service as a member of that body. He was one of the two remaining pre-Eisenhower commissioners, the other being Anthony F. Arpaia. Mr. Mitchell, whose term had four more years to run, resigned for reasons of health.

Chicago's three consolidated terminal plans were formally presented to the city and the Terminal Authority last week—and were promptly turned over to consulting engineers for study. The plans propose consolidation at (1) Union Station, (2) Union and Central Stations, and (3) removal of Dearborn Station trains to LaSalle Street, Grand Central and Union Stations (RA, June 1, p. 33).

The Milwaukee is renumbering its diesel locomotives in two- and three-digit series. The railroad's original numbering system, outgrown as the diesel fleet became larger, had locomotives of the same type numbered in different series in some cases. Retirement of all steam power made the two- and three-digit numbers available. It's expected that the new program will help simplify accounting, storekeeping and dispatching functions.

A new approach to portability in Link Aviation's tracer system of identifying cars has cropped up in talks with one railroad. The idea: construct a portable interrogator which could be moved along beside a standing freight train, recording car numbers as it goes. Link's basic plan (RA, April 13, p. 28) calls for tracer-equipped cars or trains to pass a stationary interrogator.

Gas turbine engine being developed by Canada's National Research Council might find application in railroad locomotives. Dr. D. C. Macphail, director of NRC's mechanical engineering division, told the Engineering Institute of Canada that a gas turbine's ability to use low grade fuel and utilize waste heat could make possible "very substantial" fuel cost savings for the turbine over diesel engines. To be competitive, the turbine while idling must use much less fuel than is now possible and must be capable of rapid starting, Dr. Macphail explained.

Reductions totaling $6,665,270 have been made in the property tax assessments of railroads operating in Colorado. The state tax commission indicated that this cut and one of a similar amount last year recognize a general decline in rail earnings.

"Expansion, not restriction" is the answer to the railroad industry's problems, W. P. Kennedy, president of the Brotherhood of Railroad Trainmen, declared last week. He said the trend toward consolidations and mergers "represents a move to extract more money from railroad operations on the same or declining levels of traffic, whatever the cost may be in terms of service to shippers, communities, the national economy and to our position of leadership in the world."

Retired Employees Day honored some 300 retired employees of the Chicago & Western Indiana and Belt Railway of Chicago recently. The annual event was inaugurated in 1957. This year, it featured a luncheon and a tour of railroad properties by special train.

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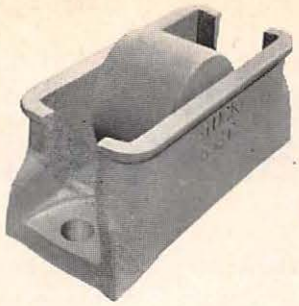

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Wine Railway Appliance Company .....Inside Back Cover

Mr. Walrath Clarifies the Issue

In the clearest statement on the regulation of competitive rates yet to be made by any member of the ICC since the enactment of last year's Transportation Act, Commissioner Laurence Walrath has this to say:

"The [Congressional] committee reports, and the ultimate Congressional action in adding paragraph 3 to section 15a, leave no doubt that the Congress views the *New Automobiles* case as expressing the true Congressional intent; and the new law makes it clear we are to plow a straight furrow henceforth."

Mr. Walrath made this statement in an address to Midwest utilities commissioners, meeting at Bismarck, N. D., on June 5. He went on to explain that "umbrella rates" had never been an ICC policy, but "certain language used in some of our reports apparently convinced the Congressional committees that our rate decisions had not always been consistent with" the doctrine in the *New Automobiles* case. This case, he explained, made it clear that the ICC could not hold rates on one mode of carriage to an artificial level to protect the rate structure of another.

•

There is another important point, however—besides agreement on the meaning of the law—that needs wider understanding. This question has to do with what kind of cost estimates should be used to determine whether or not a proposed rate is compensatory. There is no doubt as to what the *economic* answer to this question is—it is so-called "out-of-pocket" or "direct" costs which should be controlling. Professor Dudley F. Pegrum of the University of California (LA) made this point abundantly clear in his testimony on April 30 in I&S Docket 7034. Professor Pegrum was a witness in this case in behalf of the Southern Pacific, and his testimony has been widely circulated among railroad lawyers.

Fixed costs, he explains, are those which are incurred regardless of the volume of business you do. Direct or "out-of-pocket" costs are those you incur if you handle a particular piece of business, and which you escape if you don't handle it.

If you can charge a rate which will cover your direct costs plus *some* contribution, no matter how small, toward your fixed costs—then you should make that rate, rather than lose the business. You will obviously be better off if you make the rate to get this business, than you would be without it. Your customer will also be better off.

But what about the general public welfare—will that be advanced or retarded if you make a (competition compelled) rate only slightly higher than direct costs? The answer is that the public welfare is advanced by such rate-making, because it tends to maximize the use of existing transportation facilities. The fixed costs of these facilities will go on whether they are used much or little—and, since the investment is already made, national resources will be conserved if this investment is fully utilized. Pricing down close to bare direct cost for lighter loads and shorter distances does not preclude much larger profit margins on greater loads and distances.

There are some people (not many economists among them) who believe minimum rates ought to be based on so-called "fully allocated costs." Suppose the "fully allocated cost" (direct cost plus a pro-rata share of total fixed costs) of hauling a shipment is $2 per 100 lb.—and that the direct cost only is $1.60. Suppose you can capture this traffic at a rate of $1.80 but would lose it at $2. Quite evidently you would be better off to haul it for $1.80 and earn 20¢ toward your fixed costs than to lose the business and get no contribution whatever toward your fixed costs.

If the "fully allocated cost" doctrine is followed in setting minimum rates, the result is that fixed costs have to be spread over a constantly declining volume of business. Every time you lose tonnage, your unit "fully allocated costs" go up—so you have to raise your rates still higher. And so on until you price yourself out of business.

•

A WORTH-WHILE HEADACHE: Thinking through and clarifying understanding of these minimum rate principles requires a certain amount of painful mental exercise. But it is useful and necessary exercise—and by all alert railroaders, and shippers too. Because it doesn't make sense to expect that full understanding of these rather complex questions is going to permeate the thought and action of the ICC—unless they are fully understood and expounded by railroad men and industrial traffic men who appear before that body in regulatory proceedings.

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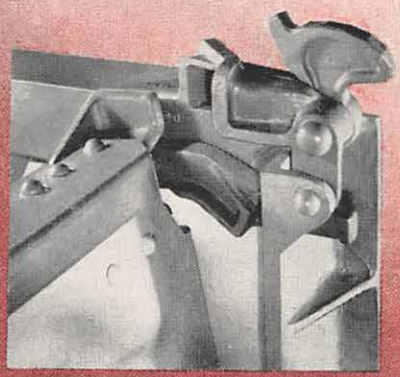

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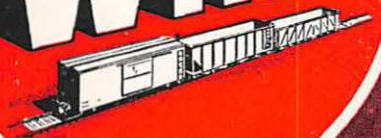

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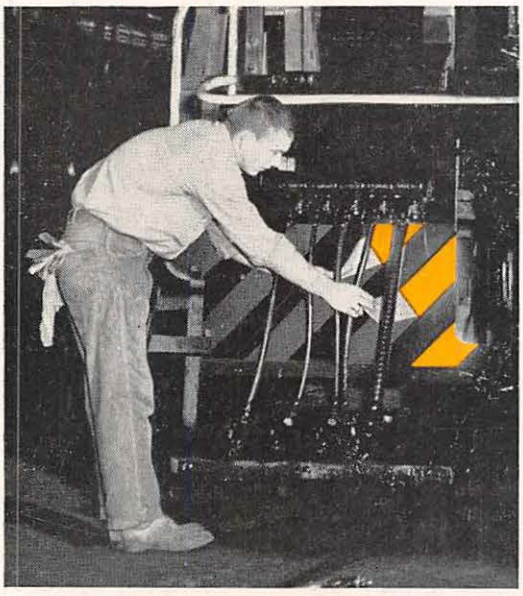

New system speeds remarking of 733 units—increases nighttime safety

Before long, the entire locomotive fleet—road-freight, passenger, general-purpose, and switching diesels—of the L. & N. will be completely redecorated in a new color scheme. An important element of the line's "New Look" is "Scotchlite" Reflective Sheeting used for medallions, letters, numbers, and striping.

The L. & N. selected "Scotchlite" Sheeting for increased nighttime safety, appearance, durability. But, one of the strongest reasons was the new pre-masked feature that makes application easier—reduces repaint time up to 24 hours.

The markings of "Scotchlite" Sheeting are pressed in position on units that have been prime coated; the front masking is left on. After the final coat of paint has been applied, the front masking is stripped off in seconds—and the unit is ready to roll with its bright "New Look" that's highly visible day and night.

Let us demonstrate how this system can cut costs and improve your method of marking rolling stock. Ask your 3M representative for complete details or write the 3M Co., Reflective Products Division, Dept. FQ-6229, St. Paul 6, Minn.

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